

American FORESTS

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation
JANUARY 1960

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The American Forestry Association, publishers of American Forests, is a national organization—*independent and non-political in character*—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Vol. 66, No. 1, January, 1960

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THE COVER

Time off for fishing by the Trail Riders of the Wilderness on the Wind River Range of the Bridger Primitive Area. Photograph by Clint Davis, chief, Information and Education Division, U. S. Forest Service.

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Forests Forum

Mission '66 Faces a Problem

EDITOR:

As you may have noticed from your newspaper, the National Park Service has just completed its biennial conference of top service officials and park superintendents. The theme of this year's conference, held last week in Colonial Williamsburg, Virginia, was "Visitor Services."

Beyond the obvious problems of accommodating millions of visitors to the national parks and protecting the scenic, natural, scientific, historical, and recreational values of these areas, we have a vital mission in making them more meaningful to the American people. These were the subjects discussed at the conference.

I feel that you will be particularly interested in a letter to me from Secretary of the Interior Fred A. Seaton, containing a six-point directive to the Park Service and read to the conferees. I am sure that all those interested in the future of the parks will strongly approve and support these six objectives.

As the 10-year MISSION 66 completes its fourth year, it is inspiring to have the cabinet officer—upon whose shoulders rests the responsibility for proper use and preservation of the national park system—give such positive indication as to the direction in which management should go. The emphasis upon, and promise of support for fundamental purposes and objectives is, I am sure, encouraging to all the millions of people who find enjoyment and inspiration in our nation's heritage as represented by the areas under jurisdiction of the United States Department of the Interior, through the National Park Service.

Due to some developments of the past few months, I felt it necessary, in my remarks opening the conference, to call attention to a campaign now underway and which can only be judged to have as its objective forestalling progress of the Secretary's Directive Number Two. This has to do with rounding out the national park system to meet a vital and growing national need. Too many people, even our friends, do not fully appreciate that careful, studied, and selected enlargement of the national park system is a most important part of MISSION 66. The expressed fear of many people that the dedicated lands of the national park system may be overrun and even destroyed by future recreational demands may be a valid concern if this part of the approved MISSION 66 is neglected or thwarted.

The National Outdoor Recreation Resources Review Commission, which was established by law to study the recognized critical need for planned land reservation for future recreational needs, has and will continue to have my full co-operation in any attempt the commission may make to solve this problem.

The campaign which gives us so much concern has been indirect. Largely it is cloaked under advocacy of the "multiple use" cure-all for all land management problems. It stigmatizes "single-use" with particular emphasis. The old and completely discredited catch-phrase of "locked up resources" is again appearing in print and further disparagement is being added by stating that "the key is being thrown away." No person or agency, so far as I can determine, is actually named. However, the examples which are given establish identity beyond any reasonable doubt that the targets in this case are all those including private citizens and organizations who feel that there are important parts of our scenic

Menominee Case

EDITOR:

. . . I believe that the Menominee termination case should be of some interest to the readers of AMERICAN FORESTS, if only because this reservation includes some 200,000 acres of the best remaining stands of northern hardwoods and white pine. Therefore I am forwarding copies of the new state laws bearing on the case. Both were passed unanimously by both houses of the legislature.

The act on assessment of the forest recognizes that a forest operating on sustained yield should not reflect liquidation value. The act creating a new county composed of the present reservation provides for a simplified method of local government, providing a less abrupt transition from the tribal government under which they have lived for several decades, which will also lead to minimum costs of local government. You will note that the new county will be attached to Shawano County for judicial purposes, because as yet they have no members trained in law. Similarly, the area is attached to Shawano Joint District No. Eight, which already operates several grade schools and two high schools. This action was endorsed by the officers of that district.

The plan filed with the Secretary of the Interior before February 1, as required, was conditional on the hope for state legislation. Press reports indicate that the secretary may take until October 30 to work in consultation with the Menominees on changes or refinements of the plan, since the state legislation was enacted too late to permit adequate consideration by the prescribed date of August 1.

While the plan is primarily a matter between the Menominees and the secretary, Wisconsin was a party of interest, and insisted on several points. The Menominees were entirely willing to request that the deed of conveyance should require sustained yield of the lands designated as forest, which would exclude limited areas for urban or recreational use. The legislature then added the provision restriction sale of the forest for a period of 30 years in the conveyance by the secretary, or otherwise the act creating the new county would not go into effect. This was adopted by the Menominees, and it remains to be seen whether this is acceptable to the secretary.

In general, the plan provides for conveyance to Menominee Enterprises, Inc., with a voting trust to elect a board of directors, the majority of whom would not be tribal members. The Menominees prefer competent business management for the present. The voting trust may terminate earlier, but must end within thirty years.

F. G. Wilson
P. O. Box 108
Madison 1, Wis.

COMPTON LEADS AFA TICKET

All incumbents up for re-election on AFA's Board of Directors were elected for three year terms starting in 1960 in the election that ended November 30 with Dr. Wilson Compton, of Herndon, Virginia, leading the ticket closely followed by James J. Storrow, of Boston, Mass. Other directors re-elected were Albert Ernest, of Jacksonville, Florida; Carl F. Rehnborg, of Buena Park, California; and George Wall Merck, of West Orange, New Jersey. The five incumbents were re-elected from a slate of seven candidates presented by the Committee on Elections consisting of H. B. Shepard, chairman, Paul M. Dunn, and Arthur W. Greeley. Tellers in the election were Harry E. Radcliffe, of the American Nature Association; Arthur Spillers, of the U. S. Forest Service, and Ralph Hodges, of the National Lumber Manufacturers Association.

and scientific heritage still remaining whose preservation is vital and necessary.

I have seen nothing which derides any other type of land use, such as logging, grazing, mining, etc. as "single-use," and therefore undesirable. The term seems to be reserved exclusively for those situations in which assured preservation of all scenic and scientific areas which may be judged to be of national significance is needed. For these reasons, I spoke frankly about the matter to the Park Service officials and furnished them with an analysis of "multiple-use" as the National Park Service views the matter. . .

Conrad L. Wirth
Director, National Park Service
Department of the Interior
Washington, D. C.

Planning For The Future

DEAR PRESIDENT JOHNSTON:

After listening to your address at the AFA annual meeting at Bedford I have been giving the problem of "What have we done, tried to do, and stood for?" a lot of thought during the past month. In all the questions I put to myself I come up with the same answer—does the obvious answer go far enough into the future? Forestry is long range planning and as foresters we have always been on the conservative side. Today we are continually faced with the problem of revising our plans because ten or fifteen years ago our estimates of the results were too conservative. When our cutting schedules on company lands exceed the ten or fifteen-year-old cutting predictions by twenty or twenty-five per cent, we are amazed; but rather than be amazed we should be chagrined for having been so conservative. How many foresters are willing to say that the methods of harvesting timber will be different twenty years from now and that our plans today have to be predicated on our dreams of tomorrow.

Does our overall multiple use program look far enough into the future and have we expanded the idea of multiple use far enough to foresee the terrific demand the public will put on forest land fifteen or twenty years from now? Some of our older national parks are classic examples of the effect of one million people a year on areas that were planned to accommodate one hundred thousand. Some areas in national parks are being worn out by over use, yet in Yellowstone for example, no new areas have been developed in over thirty years to meet the demand for increased use. Of course new hotels, lodges, etc. have been built, but they are built in the same areas to increase the pressure on the same limited space.

We have heard so much about wilderness areas, but nowhere have I seen any study of who will use these areas during the next twenty years. Will the average American family be able to afford a vacation in a wilderness area? Wilderness areas are definitely a part of our future land use, but the question is how much land should be set aside for the pleasure of only a few that can afford to hire a pack outfit and a guide to take the family on a vacation.

I do not think our overall planning on timber production, watershed demand, grazing, and recreation use of our forest land is realistic. We have to plan for the future at twenty to fifty years, not for the next five years. We must recognize the problems of tomorrow. This type of planning will take bold men to develop.

Roger Wolcott
Inland Container Corporation
Rome, Georgia

Access To Parks

EDITOR:

E. L. Peterson's letter in your October issue deserves some disinterested comment. His ideas are similar to those voiced by Chief Forester McArdle in a long letter to Congressman Pelley recently disseminated by the Sierra Club, in regard to the proposal to establish a national park in the North Cascades.

In reading Mr. Peterson's letter I was reminded of a recent trip to the Olympic, Mt. Rainier and Crater Lake National Parks. In every case, the visitor must pass through a national forest to enter and usually enters a national forest when he

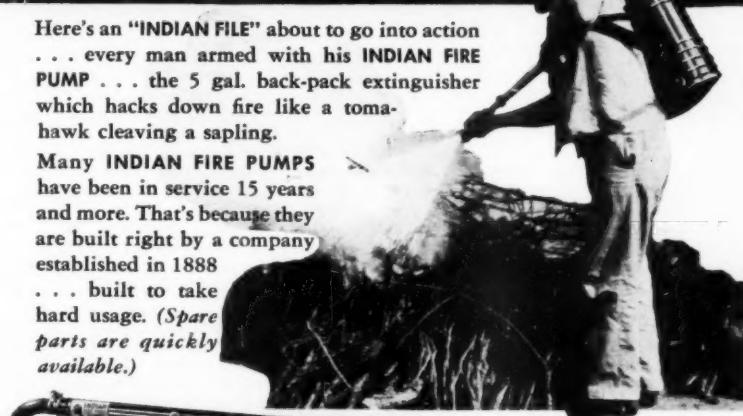
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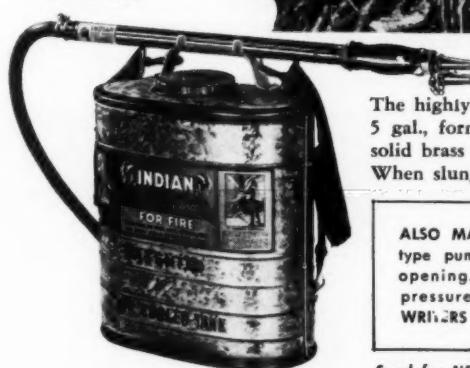


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leaves. Many of the national parks in the west are surrounded by national forests—and this means that the parks were usually created partly or wholly out of public domain that was previously in national forest. This may be called dismemberment of the national forests—to use an unfortunate word—but in every case where it occurred the Congress—and presumably the will of the people—decreed that national park status was a higher use of the land than national forest.

It is safe to assume that additional national parks will be created in the West, and as in the past, they will have to be cut off from national forests. This will be the will of the people, regardless of what national forest administrators may think.

It is too bad that administrators of public lands—regardless of the department—sometimes speak as if they were forever dedicated to the particular agency, forgetting that they are *public lands* owned by all the people. This attitude of a vested interest in a national forest or national park does not gibe with the oft-quoted maxim of "the greatest good for the greatest number"—especially when one agency puts up a sign *No Access* when another agency asks for permission to make a study of those lands to see if they have national park values.

These are some of the ironies of our conservation problems.

Anthony Netboy
2344 S. W. Mitchell Street
Portland 1, Oregon

the letter published in this same number, by J. Louis Head. His last paragraph states very well what should be our motivation in our planning for the use of our land.

Then there is your editorial, "A Hymn to Wilderness." I shall not discuss it in detail, but you said something fundamental to our human aspirations when you said, in part, referring to the group in the wilderness, ". . . one imagines that these people go home better parents, better teachers, better doctors, better business men—in short, better citizens." And again, your last paragraph eloquently expresses the lingering hope of this continent that we may have the wisdom to let the good life prevail.

In contrast with all this is the article by Frank A. Tinker "De-Spicing Western Ranges." This has to do with killing the sage with poison, and deals glamorously with how many thousands of acres can be treated with poison in one half a day. The author admits that some damage is done to willows and other species, but he terms sage as an "interloper" that should be killed off. In other words, anything that does not contribute to accumulation of dollars is unworthy of consideration.

It so happens that recently I had opportunity to examine I don't know how many thousands of acres west of Wind River Mountains in Wyoming. Willows were killed along streams in the open, which had been used by moose and beaver. And evergreen trees and aspens at the edge of forest were killed. Aside from such damage, sage has become adjusted to its use through the same millions of years. Shall we retain our antelope herds, our sage grouse? I have analyzed hundreds of antelope stomachs and all contained sage. Sage grouse need sage to survive in winter. Mule deer need browse, including the sage which they love. Some areas of sage contain bitterbrush, eagerly sought by so many animals, tame and wild. In winter, in some areas, moose go out in sage lands to feed on bitterbrush, and it has been published that a certain amount of browse added to the grass diet

"30" FOR NATURE

Nature magazine, published by American Nature Association, discontinued publication with its December issue and has merged with *Natural History*, published by the Museum of Natural History in New York City. Mr. Richard Westwood, editor of *Nature* for 30 years, will serve as a contributing editor from Washington.

The American Nature Association was organized in 1922 by Charles Lathrop Pack, who had been president of The American Forestry Association for seven years and a director for 13 when he tendered his resignation in 1922. Mr. Percival Sheldon Ridsdale, who for 12 years had been Executive Secretary and Editor for the association, also submitted his resignation at the same time to become managing editor and manager of the American Nature Association.

Aim of the Nature Association as announced by its spokesmen was stimulation of interest in all phases of nature and the outdoors and furtherance of conservation of the natural resources of the country. Meanwhile, under President Henry Solon Graves, The American Forestry Association continued to press its hard-hitting forestry programs as tied in with related resources of soil, water, wildlife and recreation. Ovid Butler succeeded Mr. Ridsdale as AFA executive secretary and editor.

Planning for the Use of Land

EDITOR:

The September issue of AMERICAN FORESTS clearly demonstrates the confusion and dilemma we are in, now that we have some responsibility in choosing our future course as a nation. This is excellently stated in

of cattle improves their health.

Who shall decide all such ecological questions, involving so many human interests? Shall it be by certain technologists who have the use of airplanes? Another danger is that this poison plan gets into the hands of some county agents and other irresponsible persons, who think of nothing that has to do with public interests.

In the areas I examined there was plenty of grass among the sage, and the original situation was ideally suited for the "multiple" purpose that should prevail. And what better cover do you want, to preserve water on slopes, than a combination of sage and other plants? I have had several ranchers, thoughtful men of experience, tell me that the eradication of sage is wrong.

What we need is not clever words, but a go-slow program, restraint, and a better understanding of our future.

Olaus J. Murie
Director
Wilderness Society
Moose, Wyoming

From a Life Member

EDITOR:

I have been wanting to write to you for some time, but I don't seem to get around to it. Being a Life Member for some years I want to say this association is one that really keeps me interested, posted, and keyed-up in reference to your many worthy activities. Keep up the good work!

D. W. Pfaff
2329 Harrison Ave.
Cincinnati, Ohio



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Under Secretary of Agriculture True D. Morse

A Program Without A Pump

WE want to apologize to Under Secretary of Agriculture True Morse for selling his pet program short. We refer to the Rural Development Program.

Back in 1955 the department came up with the fact that one-quarter of America's farm families receive less than \$1,000 annual cash income from all sources. The department further ascertained that most of the counties in which these farm families live are heavily forested.

Morse set his heart on doing something about these people, the idea being to use all existing agencies and a few key trouble shooters to stimulate action at the grass roots level in setting up local committees of key people who were interested in helping themselves. Better land management was one goal. Encouraging small industries to come in and utilize unused forests and thereby provide more employment was another. The idea, in short, was to put more take-home pay in the pockets of people living in depressed or near-depressed areas without taking it right back out at the same time in the form of increased taxes.

We can't say we weren't in on the ground floor on the proposed Rural Development Program. The chief of the Forest Service personally took us over to meet Mr. Morse and to talk about the new program.

"The idea," Mr. Morse told us, "is to get these people to help themselves. We don't want to tell them what to do, you understand. There's probably too much of that sort of thing already."

We must admit we weren't too impressed by the setup. For one thing, like any true Washingtonian who has possibly been on the scene too long, we couldn't find any new pump being primed anywhere on the premises. Then too, the whole idea seemed to be a headless sort of thing. We decided to sit on the story for awhile and wait and see what happened.

The other day we happened to be poking around in the Forest Service again and encountered George Vitas. He was hard at work on some proposals whereby small industries would be set up in several southern counties. It was part of his job in connection with the Rural Development Program.

"How is that getting along?" we asked.

"Say, boy, where have you been?" he replied, and handed us a stack of results including a release from the White House in which President Eisenhower said, ". . . This program is successfully attacking the age-old and chronic problem of low incomes in widespread rural areas where there are fine farm families on small farms and poor soils. Rural families of such areas—non-farm and farm alike—need, and we are determined must have, more adequate incomes and greater opportunities."

What has the program done? The answer is "plenty" and it all goes to prove that it is a mistake to ever undersell the power of a strong local committee. As of October 30, 1959, this "do-it-yourself" program has spread to 200 counties in 30 states. Puerto Rico is also participating.

According to Secretary Benson's report, most counties participating in this program have had an increase in both farm and non-farm opportunities. Industry expansion has resulted. Small woodlots and timber processing enterprises yielded a higher return. In four states pilot projects to increase job guidance and placement services for rural people were started. Several areas built new marketing and processing facilities or opened farmers' marketing co-operative. Reorientation of agricultural production on small farms continued, with vegetables, livestock, and poultry enter-

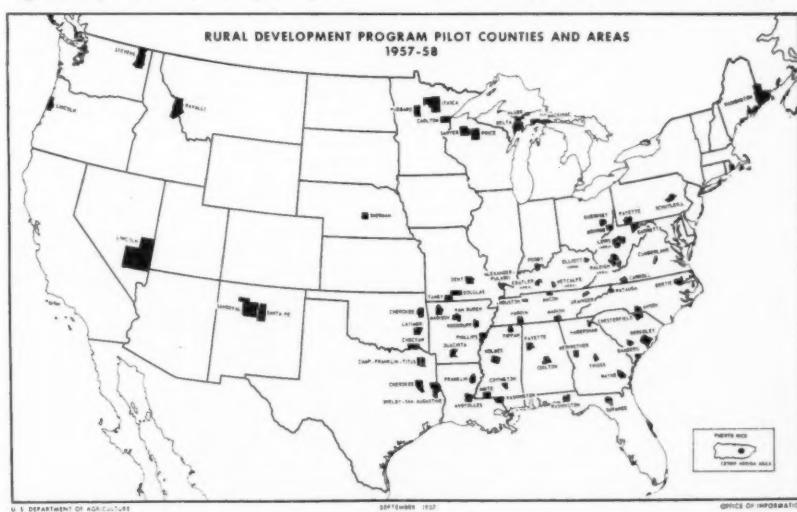
prises increasing in number and output. Vocational guidance and training for young people, as well as special campaigns to encourage advanced education, received more attention in the program areas.

Industry growth in 52 rural development counties resulted in 8,000 new job openings—and remember, these areas as a rule are not densely populated.

Special assistance made available through the program in 1958-59 includes work of some 140 state extension agents and specialists, technical assistance through the Soil Conservation Service equivalent to 75 man-years, assignment by state and federal forest services of technicians to aid in forest industry improvement, increased allocations of Agricultural Conservation Program funds in 19 states, and special low-income research in 22 states.

The Farmers Home Administration increased lending in Rural Development counties by some three million dollars in 1958-59.

Mr. Morse, a congenial individual who has a pleasant word for everyone as he moves through Department of Agriculture corridors, is the individual who devised the Rural Development idea and first tested it out successfully in civilian life. And it was a mistake to assume that the Agriculture Department version was a sort of headless proposition. It has a head all right—True Morse. (J.B.C.)



Interior Holds Up Land Appraisal Transactions

Action Taken Voluntarily on Request of House Government Operations Committee
as Rep. Moss (D-Calif.) Hints at Possible "Give-Aways" of Major Proportions

CONGRESSMAN John E. Moss (D-Calif.), chairman of the Special Investigative Subcommittee of the House Committee on Government Operations, last month requested suspension of all land transfer actions involving appraisals by the Department of the Interior's Bureau of Land Management. He stated that preliminary studies revealed that the government may have lost millions of dollars as a result of weaknesses and discrepancies in land appraisal practices.

Upon receipt of Rep. Moss' request the Department of the Interior ordered the suspension for at least 60 days, effective December 10, of all transactions involving land appraisals. This applies to public sales, small tracts, transfers to state and local governments and nonprofit organizations of so-called Recreation Act lands, and land exchanges.

In a prepared statement the following day, Rep. Moss noted that the committee staff has been "quietly" gathering facts that indicate that Interior Department "maladministration may have resulted in public land give-aways of major proportions."

Although Rep. Moss emphasized that the committee studies have not been completed, he cited one case in which the Interior Department disposed of 4,540 acres of land in Arizona on the basis of an appraisal of \$12,000. A short time thereafter the land was resold for \$630,000. At the time the Interior Department had appraised this land at \$2.50 to \$3.00 per acre, the state of Arizona had appraised the same land at \$25.00 to \$40.00 per acre.

"In another Arizona case," he said, "land appraised by an Interior Department appraiser at \$228,000 was ultimately disposed of at a valuation of \$20,000."

"In a series of transactions involv-

ing federal lands in Arizona," he continued, "persons who already had contracted to sell certain land at an average price of \$28.00 per acre applied for and acquired the land from the government on the basis of Interior Department appraisals of \$1.25 to \$2.50 per acre."

In Washington, an Interior spokesman said, "We don't know what cases are being referred to, but they must be exchanges, as 1520 acres is the most that can be sold outright in a single sale. In an exchange, the government also acquires land, often double the acreage, as such transactions must be for equal values."

"We handle about 170,000 cases a year," he continued. "Many are turned down, but about 25,000 went to final patent in the past five years. These covered everything from hot-dog stands to homesteads, airports, and state parks. In order to process so many, exchanges valued at less than \$50,000 are handled in the field, while those above \$250,000 go to the Secretary of Interior for final approval. Those in between are approved by the Director of BLM. Consequently there could be a slip-up somewhere, but we will co-operate with the committee as soon as we find out what it wants to know."

For some time the Bureau of Land Management has been unhappy over the limitations of the Taylor Grazing Act, the law under which land exchanges are made. The act requires that exchanges be made in the public interest. This is as it should be. But the framers of the act intended that a rancher with scattered holdings would be able to consolidate his operations by exchanging outlying parcels for intermingled government land. They did not foresee that land at one end of the state would be offered by the government for a tract of an entirely different character at the other end or that it

would be used for some other purpose.

Furthermore, an isolated, barren, desert valley may be appraised for all known values, but it acquires an entirely different valuation after a developer has moved in, started construction, and attracted other enterprises.

Of course, mushrooming developments near urban centers have put a premium on wild land. Speculators have been known to option private holdings for as little as 10 cents an acre and a promise of big returns if they are able to exchange it with the government for some more desirable tract.

The Interior Department spokesman also reported that on occasion an unscrupulous promoter will acquire a tract, organize a corporation, make an exchange, organize another corporation, make a sale, and build up paper values for tax purposes without a dollar changing hands.

Recognizing the weaknesses in the present land laws, Congressman Wayne N. Aspinall (D-Col.), chairman of the House Committee on Interior and Insular Affairs, introduced H.R. 7042 in the last session of Congress. This bill would permit sale of public domain lands at public auction.

Senator Barry Goldwater (R-Ariz.) and Representative John J. Rhodes (R-Ariz.) introduced in the same session a joint resolution, H.J.R. 492, to establish a commission to study the public land laws and determine which ones are obsolete or otherwise unworkable.

Meantime BLM spokesmen point out that disposal of the public lands by exchange has a "double-barreled" weakness because the property of both parties must be appraised, doubling both the work load and the chance for error.

Washington Lookout



By ALBERT G. HALL

SPOKANE, WASH. DEC. 11—THE FIFTIETH WESTERN Forestry Conference, here, has attracted some 800 persons—private and public foresters of western United States and Canada, loggers, engineers, forest industry managers and men and women interested in forest management, forest protection, the business of forestry, and the development of natural resources.

CO-OPERATION IS THE KEYNOTE OF THE MEETING. And it is evident that public and private foresters in this area see eye to eye on the need for forest protection. First, back in 1909, when the Western Forestry and Conservation Association was founded, protection from fire was the principal aim. As progress was made in fire prevention and control, and as forest management took hold, protection of the forests from insects and diseases became part of the cooperative effort. Then, and especially as the virgin forests gave way to younger natural and planted stands, overpopulations of wild animals posed another danger to the forests and to the basic timber economy of the West.

A NEW THREAT TO THE COMMERCIAL FORESTS, THE fear that productive forest land may be set aside for recreational and wilderness areas has now added new impetus to the spirit of co-operation. Many westerners feel that another common enemy has developed, one that could rank with fire, insects or diseases, if allowed to run unchecked.

MULTIPLE USE OF FOREST LAND, ESPECIALLY public forest land, has been stressed throughout the conference. Charles A. Connaughton, regional forester, U. S. Forest Service, San Francisco, and recently-elected president of the Society of American Foresters, defined multiple use as a concept of land management, not as a rigid program. He emphasized that each area does have a dominant use into which other lesser uses may be integrated so long as they do not interfere seriously with the

dominant objective. Dominant uses, he added, are subject to change from time to time, as management objectives change.

A COLOSSAL LAND GRAB FOR A SINGLE USE EMPIRE is the characterization made by Virlis L. Fischer of Las Vegas of a widespread movement by some recreational organizations. A prominent recreationist and outdoorsman himself, Fischer decried the attempts being made to "dismember the national forests" by turning large areas over to the National Park Service. He urged that more research be conducted on the real need and nature of wilderness areas before commitments be made on vast set-asides.

CREEPING UP ON TREASURED SPOTS IS A CHARACTERISTIC of increasing populations, said Emanuel Fritz, Foundation for American Resource Management, San Francisco. He cited the people-swollen European countries as an example of what's ahead. Europeans, he said, obtain their woodland recreation in managed forests. Population pressures have forced them into making everything serve multiple use. "We, here, are nearer to the European intensive multiple use than we appreciate." If professional conservationists are not prepared to expend some of their efforts toward population control, he warned, they will not long have national parks and wilderness areas as we know them today.

PROSPECTS FOR HIGHER COSTS IN THE USE OF capital, rising labor costs and higher taxes without major long-term increases in stumpage prices to offset their effects are adverse to investment in timber resource management, said John A. Zivnuska, University of California, Berkeley. "In a private economy, a purchaser pays the cost and receives the benefit. In a public economy, frequently one group receives most of the benefits and a largely separate group bears the brunt of the

WASHINGTON LOOKOUT (Continued)

costs," he said. He suggested that users of recreational service on public lands should pay a "recreational stumpage fee," thereby putting them on the same basis as the users of timber and forage who pay a fee for value received. "This charge could be extended to include also a return to capital improvements and the resource itself. And the plan would reduce present-day land use conflicts by bringing costs and benefits into closer coincidence with social groups."

INDUSTRY'S SOCIAL RESPONSIBILITY INCLUDES

more than just making a profit, John Miles, Simpson Redwood Co., Arcata, Calif., stated. But, he added the forest products industry has to operate at a profit to fulfill its duty to society. Our western civilization has become so complex that we must go back to basic principles to solve our conservation conflicts. This means that all who have a sincere interest in conservation "must stop throwing rocks at each other and sit down to talk it over."

BRITISH COLUMBIA'S FOREST PROBLEM IS NOT

the creation of more wilderness areas, but rather that of developing, for the use of all, millions of acres of wilderness, said R. G. McKee, deputy minister of lands, Victoria. Forty cents of every British dollar comes from the forests, and in many communities the "entire dollar is wooden," he said. Sustained yield forestry in 1958 produced 68 per cent of the British Columbia log cut—98 sustained yield units on 65.9 million acres, with 20 more units comprising an additional 11.7 million acres being added to the program in 1959.

600 BILLION GALLONS OF WATER DAILY WILL BE

used in 1979 as compared with 260 billion gallons today, said Charles A. Weller, U. S. Forest Service, Ogden, Utah. To meet this and other demands of the growing population will require effective research in multiple use management. He stated that forestry research is lagging more than a quarter century behind the general level of research in the United States. "Out of every \$1000 of consumer expenditures in the United States, \$13 go for research. But forestry research spends only \$2 out of every \$1000."

FORESTERS CAN NO LONGER AFFORD TO WAIT FROM

5 to 10 years to establish a new crop of trees, Royce O. Cornelius, managing forester, Weyerhaeuser Co., told the conference. The gap between cutting

old trees and regrowth of new ones can be shortened, he said, by intensified reforestation. He reported that his company is reforesting more than 30,000 acres annually on its tree farm lands in Washington and Oregon, and that a total of 75,000 acres has been seeded directly from the air after harvesting operations. A helicopter in one day can seed an area that formerly required two planting crews two months to plant by hand.

THE CHEMICAL INDUSTRY HAS BECOME A MEMBER

of the forest protection team. Donald A. Spencer of the U. S. Bureau of Sport Fisheries and Wildlife, Denver, Colo., cited estimates that in Oregon and Washington alone, animal pests cause an annual loss of \$15 million to growing timber. "When the height of a Douglasfir plantation, four years after planting, is less than the height of the original planted seedlings, due to repeated browsing by rabbits and deer, the price is too high," Spencer said. The problem resolves itself into removing tree seeds and forest seedlings from the realm of desirable animal food." The agricultural chemicals industry in cooperation with forestry research is providing some \$250,000 annually in services, helping to screen and test promising chemicals—helping to build "a chemical armor around seeds or seedlings to make them unpalatable to animals until the tree can lift itself above damage level."

NEW WOOD PRODUCTS WILL MEAN MORE INTENSIVE

conservation, R. V. Hansberger, Boise Cascade Corp., Boise, Idaho, declared. He pointed out that lumber represents an elemental reshaping process, utilizes a low proportion of the original wood volume of the tree, contains many of nature's variations, and faces increasing competition from other more standardized building materials. Present and future advanced wood products tend to complement rather than to replace lumber, because their reshaping is so thorough that they can use small particles of wood leftover from lumber processing. "It is the desire to transform this vast volume of by-product wood into higher forms of processed wood which has inspired the forest products industry recently to regroup itself through mergers and acquisition into larger integrated units which can afford large investments needed to process these new products." Ultimately, he said much of the new economic value will go back to stumpage prices, thus increasing the economic practicability of more intensive conservation.

Editorial

ACCENT ON MARKETS

The proposed campaign by the American lumber industry to recapture lost wood markets and develop new ones apparently is meeting with the favor of many members of The American Forestry Association. As outlined in this space last month, the industry proposes a 10-year 125 million dollar effort that would accelerate research, development of new trade and promotional outlets, and stepped-up merchandising programs on television and in mass media periodicals. Some members have advanced their own ideas on how this could be done most effectively. Several urge that the industry adopt a trademark of quality for universal use, which proposal is already under consideration by the industry. Another, in noting more and more "Tree Farm" signs in his travels urges that the words "Reserved for Tomorrow's Homes, Schools and Churches" be added to these signs wherever possible.

This campaign, of course, is in line with the broad objectives as laid down by President Theodore Roosevelt at the American Forest Congress of 1905. Mr. Roosevelt saw a strong national forest system and an enlightened wood industry as the two key props in wise use forest conservation. While AFA members were to be warmly commended for their active interest in forest conservation, Mr. Roosevelt stressed that in the final analysis it would be the forest industry—those people who work with wood and know wood—who must make wise use and forest abundance a reality in America. This can only mean that an ever-expanding forestry program depends directly on ever-expanding markets.

In general, forestry's advance has rather closely adhered to the Roosevelt concept. And an impressive story of progress it is, too, as more and more foresters have continued to take the story of wise use outward and downward into the state and local communities. In a sense it is a story of public and more recently of private foresters who have individually taken the message to the weekly newspaper, the local schools, churches, and service clubs. It is these thousands of worthy groups that have provided forestry with the necessary sinew that has been spelled out in terms of a greater forestry effort at the local level and more appropriations on the federal and state levels for more and more forest improvement and protection, forestry schools, and research programs. As a result, forestry continues to move further and further away from the shadow of timber famine with forest growth and drain virtually in balance.

In recent years, however, we have seen, and rightfully we think, more and more emphasis on markets, first by the pulp and paper industries and more recently by lumber. The availability of markets may also be the key link in solving the problem of bringing the farm and small woodlands into the forestry orbit, which must be done if the needs of an ever-increasing population are to be met. With both the industry and forestry now more market conscious, perhaps the time is ripe for an all-out campaign to solve this small woodland problem, with all groups working together co-operatively on a basis of mutual understanding and trust. Certainly the relations between forestry and industry have never been better and good understanding provides the rimrock of the basic ingredient that is needed, namely, co-operation.

THE OTHER SIDE OF THE COIN

Mr. Peterson, the Assistant Secretary of Agriculture, in recent weeks has been telling the public that proposals to augment the national park system at the expense of the national forest system threaten the "dismemberment" of the national forests. Observing what conservationists are already calling Mr. Peterson's "not another inch" position, Mr. Wirth, the Director of the National Park Service, last month informed AMERICAN FORESTS that he can only interpret these efforts to mean that certain elements (unnamed) are trying to hamstring Mission 66 (See page 2). Thus the battle is joined.

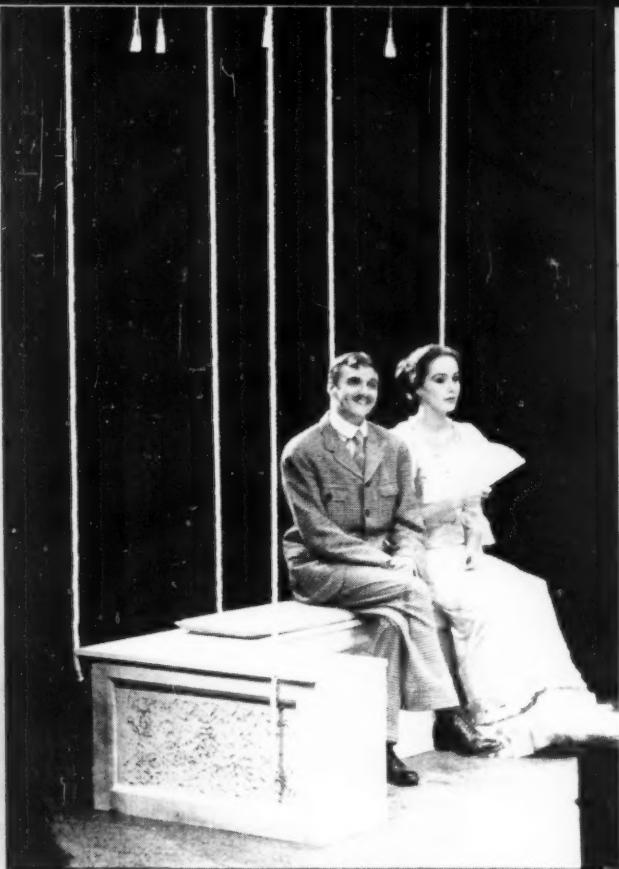
Some lumbermen and other commercial users of the forests are already applauding what they regard as Mr. Peterson's positive stand. Many conservationists, on the other hand, including some members of AFA, who also have a stake in the forests and parks, are taking a morose view of what they consider Mr. Peterson's unbending posture. "Isn't he forgetting," one AFA member asks, "that he isn't dealing with a bunch of predators out to do in the public lands? He's pointing the finger at a sister service, the National Park Service, that faces some very real problems on over-use of its limited areas."

What is the situation? The Park Service has been directed by the Secretary of the Interior to get more parks. It can do this by securing more appropriations to buy more land, or it can try to persuade the Forest Service to part with some of its land, which evidently is the tack it intends to pursue.

The Forest Service, some members of which will admit privately that the parks need more acreage, expresses its concern over what it regards as the "insatiable appetite" of Interior and asks where the demands will stop. Dark hints are heard of "empire building" for the benefit of only one form of use at the expense of all the uses embraced in the Forest Service program. To this, the Park Service retorts that the Forest Service is throwing up a multiple use smoke screen to cover its arbitrary position which is "We've got it and you can't have it."

We believe, of course, that there are two sides to this coin and AMERICAN FORESTS proposes to examine both in future issues. While there may be more here than meets the eye, it does seem to some AFA members that Mr. Peterson is adopting a most rigid position on this—at least up to this time. Then too, there are those members who are taking his "dismemberment" statements with a grain of salt when they recall how the department relaxed its position on the Wilderness Bill, a measure in its original form that drove for the very jugular vein of national forests administrative elasticity. To some, this has posed a "dismemberment" threat far more serious than proposals, say, to convert a few national forest acres for an Oregon dunes seashore park. Isn't it just possible, one wonders, that at least one or two of the proposals for park expansion might have at least a grain of merit?

As we say, there may be more here than meets the eye and we are already inclined to believe that the spirit of David Harum will never be dead so long as Mr. Wirth and Mr. Peterson continue on the job. Meanwhile, judging by the reports, the people who think they are really being put on the spot by these developments are some members of the Outdoor Recreation Resources Review Commission. Apparently, it's their move.



"Marble" benches for *Major Barbara* scene are made of wood

THE WOODEN

By DON KOLL

Photos by Vincent Finnigan



Set at Arena Stage, Washington, D.C. shows extensive wood use



Near right, statue of Shakespeare at Folger-Shakespeare Library is made of mulberry wood. Far right, top, doorway at Folger Library is decorated with Shakespeare's coat of arms. Below, portion of reproduction of Globe Theater at Folger Library, Washington



*"... but pardon, gentle all,
The flat unraised spirit that hath
dar'd
On this unworthy scaffold to bring
forth
So great an object: can this cockpit
hold
The vasty fields of France? Or may
we cram
Within this wooden O the very
casques
That did affright the air at Agin-
court?"*

THUS speaks the chorus, exhorting the members of the audience at the beginning of Shakespeare's

Henry V to lend their imaginations to the play they are about to witness. Whether it be called "unworthy scaffold" or a "cockpit," the stage is the platform on which life is re-created in terms of the theatre. Theatrically speaking, and to paraphrase Mr. Shakespeare's immortal line from another play, it is entirely true that "all the world's a wooden stage."

For no theatre, whether it be Broadway, off-Broadway, community, or academic, can exist without three basic ingredients—actors, audiences, and wood. From the time the playwright puts his ideas on paper to the opening night when the actors walk



out on the wooden stage, the theatre lives with lumber in its many forms, shapes, and positions. The magic created on stage by playwrights, directors, actors, and designers is an illusion; if the setting is a street in Venice, a plaza on the Riviera, a castle in Spain, a penthouse in New York, or a farmhouse in Kansas, the designer creates them from trees; indeed, where trees may never have existed before.

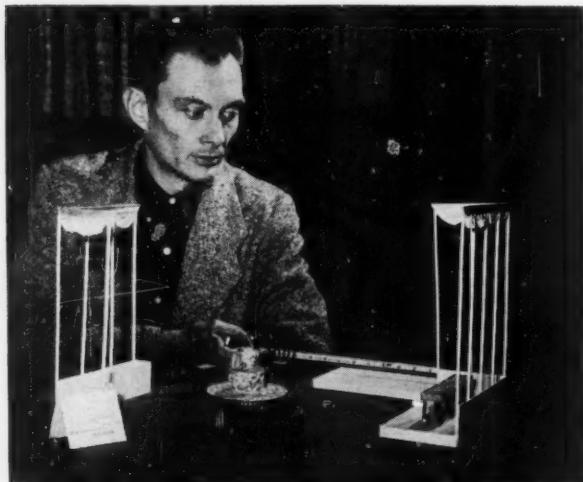
Starting with the stage itself—that area on which the dramatic action takes place—the development of theatrical construction grew as man learned to improve his natural sur-



Michael Lipton in *Major Barbara* role uses wooden drum, sticks



Wooden restaurant front was designed for "Clandestine on The Morning Line"



Curtiss Lipton, set designer at Arena Stage, creates model sets in wood. Wood, paper, cardboard are chief model set materials

Changing the set at intermission shows the easy maneuverability of wooden "props." A "marble" bench can be handled by one person



roundings. The very first "theatres," the temples and amphitheatres of Greece, were indeed primitive. The stage was the earth, the "orchestra" and "balcony" seats were on the surrounding hillsides, and the furniture and props were whatever rocks nature had left in the way of the artists. As entertainment moved indoors, particularly with the development of the Elizabethan theatre in England, the ideal form of presentation became the wooden platform which is still the foundation of all theatres today.

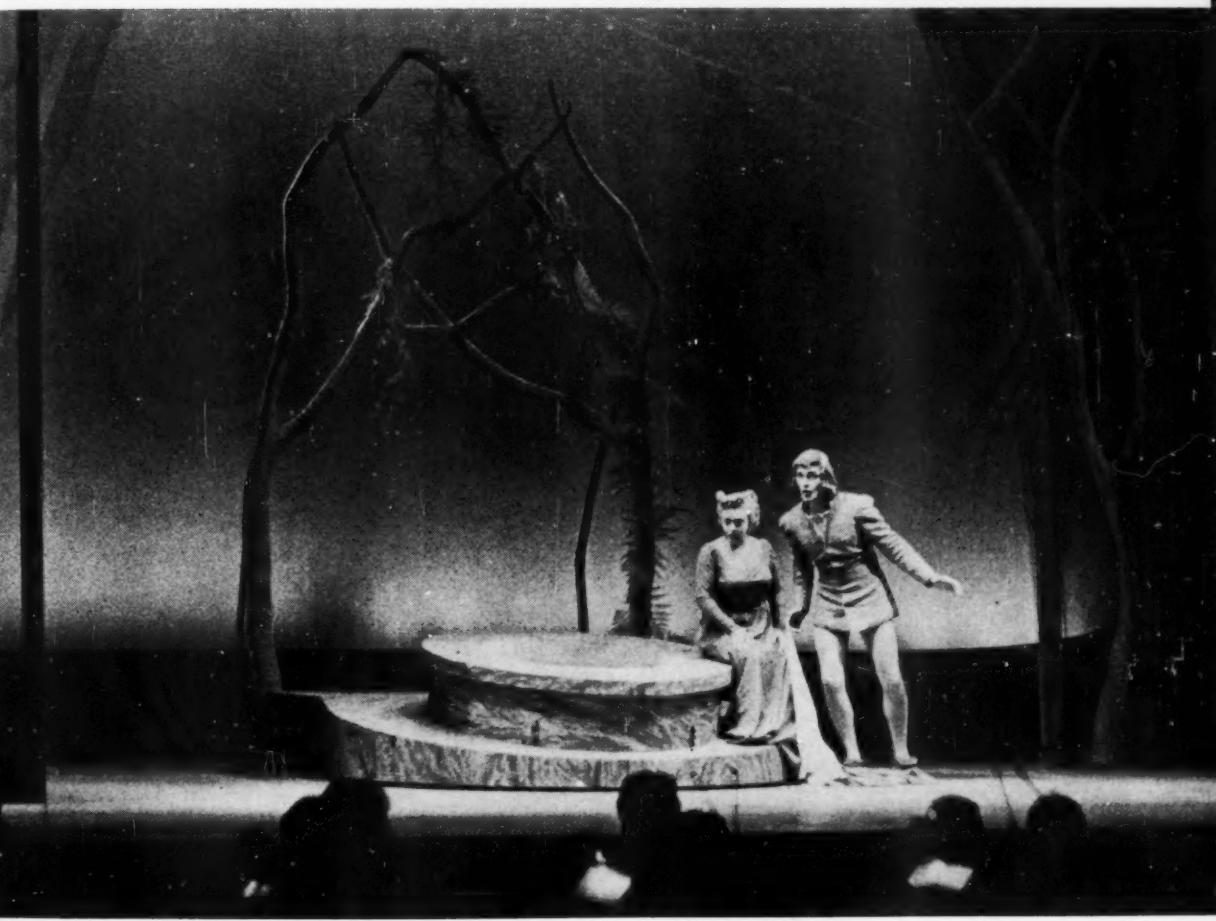
Many feet have trod those boards since the first theatrical producer met with the director to decide that earth and stone were not proper materials for dancers to be limber on, for actors to be comfortable on, for stagehands and designers to be adaptable with. Wood was the only answer. This platform could be at any convenient height, could take on new colors and forms, and could have other elements attached to it.

Perhaps no other form of human endeavor embraces so many facets of life or has to do so with utmost economy as theatre. For theatre is life, "holding the mirror up to nature"; and to re-create the world in terms of the stage would be impractical without the magic of wood. That stone balcony of Juliet's? It's wood. Medea's marble palace? It's lumber. The girders of the Elevated in the background for *Street Scene*, the interior of a Navy ship for *Mister Roberts*, or the exterior of a bullfight arena for *Carmen*—all would be impossible to recreate without lumber.

Just as many actors play many roles, wood can repeat its functions time after time with different disguises. What is Hamlet's castle

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JAN

Scene from the Washington Opera Society's production of "Pelléas et Mélisande" at the Lisner Auditorium features wooden set pieces. Even trees in background are made of wood.



one week may be a Hollywood home the next. With the use of "flats," large pieces of canvas stretched over wooden frames, the background can be changed at the designer's will. What appeared once as a marble pillar might play its next role as a brick smokestack. With the help of color and lines from an artist's brush, wood is a performer with many roles in its repertoire.

How many times have audiences wondered what goes on behind the curtain between the scenes of a play. Stagehands are busy re-arranging the stage for an entirely new locale, a change of background, a different world. They can accomplish this only if what they handle is maneuverable, often by a small number of men, and limited to the space requirements of the stage and back-

stage areas. A piece that would take hundreds of men to lift, were it real, can be handled with ease by one or two. The first scene of George Bernard Shaw's play, *Caesar and Cleopatra*, takes place at the base of the Sphinx in Egypt; the second act is the palace in Alexandria; the third act is a quay on the harbor. What took thousands of Egyptians hundreds of years to build from stone and earth can be created in the comparative twinkling of an eye by stagecraft and can be shifted from one to the other with a minimum of effort, thanks to the use of wood.

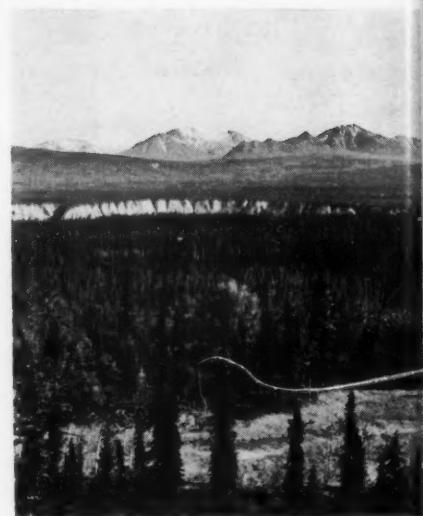
The newest form of staging in the United States, theatre in the round, of which Arena Stage in Washington, D. C., is one of the foremost examples, relies heavily upon lightweight, functional materials for its

stage settings. Because there is no curtain to separate the audience from the stage, scene shifts are made in full view. Patrons are intrigued to watch stagehands (often female) cart away what seem to be heavy pieces of scenery. Although the acting area is seldom on a raised platform as in conventional proscenium theatres, the stage floor is always of wood and is often augmented by sectional platforms that afford different acting levels. These sections must be maneuverable and alterable, yet must be firm enough to support the weight of several people. They must also serve their purposes without distracting from the basic action of the play. They must be the silent partners of the playwright and actor,

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Aerial view of the University of Alaska located about 5 miles out of Fairbanks.



Climax white spruce forests grow along the Nenana River, which is marked by bluffs.



A L

STATEHOOD has thrust Alaska into the national spotlight as the last frontier, a land of golden opportunity, with tremendous resources ready for quick development.

A realistic report on the new state's prospects was desired by *The Milwaukee Journal* and the writer, to get it, spent several months gathering material and a month in Alaska interviewing informed sources and seeing things for himself.

The facts are that the new state is a vast reservoir of things that the nation will need some day but does not need now, and the frontier is an anachronism—a pioneer economy, with high wages and a 40-hour week, smothered by the highly developed production of a mother country brought close by modern transportation.

Alaska has limitless land, known deposits of some 30 minerals, great forests, valuable fisheries, oil and gas fields of large potential, enormous hydro-electric possibilities, big game hunting, sport fishing, and magnificent scenery to attract tourists. But



A large Sitka spruce about to be "topped" for use as a spar pole in high lead logging operation.



Burns have destroyed vast areas of caribou and reindeer range. Lichens these animals eat may take 30-40 years to return. On slopes left bare, thawed soil slides over permafrost underneath.

ASKA

By R. G. LYNCH

Photos by Lee Prater, Forest Service

After his visit to Alaska last year, this topflight reporter for "The Milwaukee Journal" believes the glamour should be peeled off Alaska and a hard look taken at what is underneath

most of these resources just cannot be developed in competition with present world markets, and statehood is no magic wand that will repeal the laws of economics.

Little of the land is good for agriculture. Many of the minerals are of low quality and even some of good quality are too costly to mine. Forests, too, are low grade and depend on the pulp industry, which presently is over-built in the United States and Canada.

Commercial fisheries, Alaska's major industry (aside from defense construction), have been at low ebb for a decade because of a serious decline in the salmon population.

If a petroleum industry develops as expected, it could give an early stimulus to the economy. Oil companies have been exploring and drilling for half a century and the only recent production has been oil for test purposes and gas for a federal installation on the Arctic coast.

Power sites are in wilderness. Development would be costly; transmission over long distances. Only big

industry can use big power, and Alaska has little to attract industry. Both cheap oil and cheap power would undermine the coal industry, which in 1958 headed the list of mining production in dollar value.

The "big" economy is going to be slow in developing. The new state's best hope is for improvement of its "small" economy—more people with resources and skills, and a better market for home products and services, which will keep more money in the state.

This problem will be understood better if Alaska is put into perspective. It is a big land and an empty one. Mountain ranges, marshes, and tundra occupy most of it. There are glaciers, active volcanoes, and great rock faults which cause earthquakes. A violent quake shook the gulf coast shortly before the writer's visit in 1958, and as recently as 1954 Anchorage was showered with ashes by Mount Spurr, across Cook Inlet.

In an area one-fifth the size of the 48 older states combined, there are about 4,000 miles of highways, hard-

ly a third of the mileage paved—maybe another 1,000 miles of local stub-end roads and trails. There are more and better roads within a 50-mile radius of the writer's home in a Milwaukee suburb. The highway system and the Alaska railroad serve only the central (Anchorage-Fairbanks) area. A side road from the Alaska highway runs to Haines on the southeast coast, with a ferry connection to Juneau.

Settlements are mainly along the coasts and rivers, accessible by water. Two-thirds of the entire population is in and around Anchorage and Fairbanks. The whole vast land has only 60 communities with as many as 200 residents. Yet 300 places have improved landing strips and 130 have scheduled airplane service, and about 16 per cent of all seaplanes in the United States are registered in Alaska. Such is the dependence on air travel. There is no passenger ship service except tourist steamers in summer, which go no farther north than Juneau and Skagway.

Defense activities in World War

II shot up the military population and more than doubled the civilian population. The military personnel has shrunk steadily since the mid-1940's and there has been an annual migration deficit (excess of departures over arrivals) since 1954. This reached 8,556 in 1957, about one-seventh of the white civilian population. The excess of departures dropped to 4,314 in 1958, doubtless due to statehood activities, and 1959 figures, it is hoped, may show an excess of arrivals.

The white civilian population ranges between 120,000 in winter and 130,000 in summer. Some 35,000 Indians, Aleuts, and Eskimos and perhaps 40,000 military personnel add up to an estimated average population of about 200,000. The northern third of Wisconsin—the cutover forest area—has about 140,000 more people than all of Alaska, including the military.

Historically, new lands have prospered by exploiting their resources and retaining more of the proceeds than they spent "outside." This was possible because they made things and did things for themselves.

Not so in Alaska. Food, clothing and other merchandise are imported. Despite high freight charges, things brought in are cheaper and often better than if they were made in Alaska—if they could be made there.

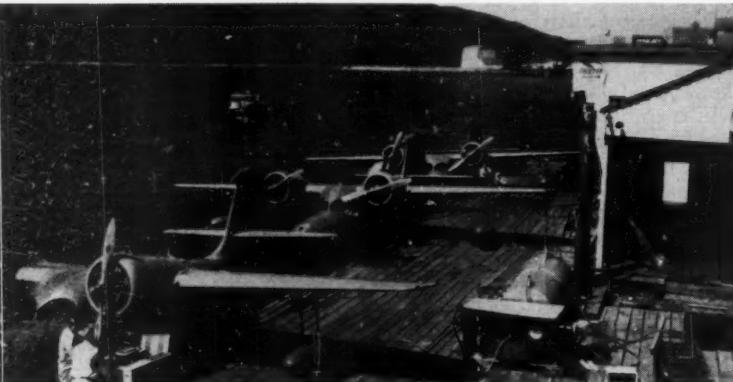
Lumber, lime, cement, and fuel oil are shipped in, although Alaska has the materials right at hand. In all of Alaska, at the time of the writer's visit, there was no millwork plant, no slaughterhouse, no brickyard, no galvanizing plant, no creosoting works, no foundry.

Local ventures suffer from lack of enough market to make efficient use of plant equipment. A concrete block factory sells only 25 per cent

(Turn to page 52)



Felling a large Sitka spruce on the Hollis operation of the Ketchikan Pulp Company, Prince of Wales Island, Maybeso Drainage.



Busy scene at Ellis Air Lines terminal at Ketchikan. The Grumman Geese, amphibious planes, are the work horses of Alaska.

Magnificent scene on Tongass National Forest, looking across head of Tracy Arm. Water is 800 ft. deep where it meets South Sawyer Glacier.



The Colors Winter Wears



By JESSE STUART

WHEN people speak of winter's drabness and emptiness I think of the many colors I see. Nearly everyone thinks winter is either all white or all dark. But what is prettier than a white winter? What color in any season is more attractive than a clean white blanket of snow spread over the valleys and level spaces? Something really nice to see is snow-covered landscapes and white rolling cloudscapes with an in-between of leafless dark trees to contrast with the white below and above.

Snow and cloud are not the only white colors in winter. Frost, which is often called the "breath of God," is delightful to see under a cold blue morning sky. I have stood for minutes inhaling and exhaling just to see my white breath go out and thin to nothingness in seconds on this cold blue air. I have watched my cattle inhale and exhale on a winter field. Inhaling and exhaling among

animals and men on winter mornings is nice to see. It is a white air that will not stay long. White air is absorbed faster than white gossamer threads spun by spiders and lifted toward the sun.

When the bright winter sun rises, the white frost rises too in the form of little clouds. This is a part of the winter world, a rapture of white colors that must be satisfying even to those who think of winter as being a drab, colorless season. It is an unforgettable scene to see thousands of these small white clouds rising simultaneously toward the sun over the winter earth.

Icicles hanging from the cliffs look like large white teeth in the dark mouths of gray monsters. Tall sycamores with white, green, and brown blotches of bark line the Sandy River banks. These "ghost trees" give one an eerie feeling when he

(Turn to page 57)



What color is more attractive than a clean white blanket of snow?

Hugh Bennett •

Recent photograph shows Dr. Bennett standing beside portrait of John Wesley Powell at the Cosmos Club.



MESSIAH OF

WHILE Cuba was in revolt in 1958 a vigorous 77-year-old American trudged over that island's steep hills, often wearing out his much younger helpers. He carried a long hollow tube, called a soil auger, which from time to time he drove deep into the ground. He carefully studied the color and texture of the samples brought up by the auger, and jotted hurried notes.

The opposing armies did not interfere with his work; perhaps they understood that governments come and go but the land endures. And insuring that it would endure—at its greatest productivity to feed Cuba's hungry—was the job of this mud-splattered, six-foot American with the benign, jowly face—Hugh H. Bennett. He is the former chief of the U. S. Soil Conservation Service and father of a far-searching conservation movement which is performing plastic surgery on the eroded face of the entire globe. He has enlisted some 80 countries on every continent to repair the spoliation of centuries of their land resource.

One U. S. Congressman who a few years ago made a world tour to study agricultural problems, said to me recently:

"Wherever I went I heard the name of Hugh Bennett. In Europe, farmers struggling against erosion pointed out accomplishments he had inspired. In Lebanon, I saw terraced hillsides that followed his recommendations on how to use the land and preserve its fertility. Elsewhere in the Far East heads of state begged me to send Bennett to them so he could judge whether they were on the right agricultural track. Even in the jungles of South America they talked knowingly about soil conservation."

Before Bennett could alert the world to the fact that it was throwing away one of its most precious heritages, its soil, he first had to learn this himself. As a boy in Anson County, North Carolina, he fished in

OF THE SOIL

By PETER FARBER

a brown-colored creek, and never thought to question why the water was muddy. On his father's plantation, the soil was being overworked and sold along with the cotton. All around him he saw land being abandoned because of deep, bleeding gullies.

Bennett himself contributed to the wastage a few years later, and in the process began his education. To raise enough money to enter the University of North Carolina, he cleared about 25 acres of virgin land, much of it too hilly for cultivation. With the steep hills shorn of their tree cover, the pounding rains poured the soil down the hill, and the land was soon jacknifed with gullies. His education had begun. He majored in soils and agriculture.

After graduation in 1903, he took a job with the Soil Survey Division of the U. S. Department of Agriculture, a new agency setting out to inventory this country's different kinds of soils and observe their productivity. The job was ideal for him—he is still happiest when tramping the land with his soil auger.

Soon he made a nagging discovery: Everywhere, he saw skeletons of forests, slashing gullies, wildernesses of worthless brush, eroded hills, rivers which ran red, yellow, and brown from the tons of fertile topsoil washed into them after every rain. It looked as if all America were bleeding. Yet so little was known about soil conservation in these early days that no one could explain *why* so much land was losing its fertility.

At night Bennett either camped out or found a nearby farmhouse to bunk in. He soon had a rule-of-thumb for gauging the kind of hospitality he would receive just by looking at the field. If they were eroded, then he would not be offered much for dinner that night. He learned now a harsh fact which he was to combat for the rest of his life: "Eroded soils make for eroded people."

But disturbing reports of soil infertility were reaching Washington. So in 1905 Bennett was sent to Louisa County, Virginia, to investigate the reasons for the poverty of the soil there. He discovered the reasons—and also the crusade which was to occupy him for the rest of his life. Louisa County had been flailed by wasteful farming methods until the bare bones of the earth stuck out. Plowing in straight lines up and down hills, cultivating steep land, leaving the soil surface bare—all had contributed to stripping away the entire topsoil, which may have taken nature as much as 7000 years to produce. But when Bennett dug his hands into the adjoining virgin woodlands, where nature had managed the land, he found it mellow and moist.

Bennett's momentous discovery was that both pieces of land had once been exactly the same. Their slope was exactly alike, and so was the underlying rock from which they were formed—the only difference was what man had done to the portion which had been cultivated. He had discovered the most widespread reason for the poverty of many farmlands, and a cure as well—to manage the land as nearly as possible the way nature might have. He urged that, whenever possible, vegetable cover be maintained to catch the raindrops, guard the soil.

But his superiors were not so quick as Bennett to perceive the dangers of erosion. His recommendations were ignored, for they did not dovetail with the theories then held by many soil scientists. A fierce scientific battle had been raging about the causes of soil infertility and the scientists were divided into many camps—all of them wrong. One group maintained that there were mysterious "toxins" in the soil; others held that the soil served only to hold the world together and had no function besides propping plants in place.

Stubbornly, Bennett amassed more facts and carefully recorded them. In one South Carolina county, 136,000 acres of land had been so ravaged that he could barely walk over it. In Georgia, he came upon a gully that had already swallowed up 3000 acres, was 200 feet deep in some parts, and its tentacles were reaching out for more land; all this had happened in only half a century, and it had begun with the drip of rainwater off a barn roof! He saw the truth, and directly he set out to make it known, telling his story wherever he had a chance.

He made speeches at crossroads, village and church socials and barbecues, at schoolhouse farm meetings and before college scientific groups. He warned that we had already destroyed or severely damaged about 200 million acres of land. One of his most telling arguments was a comparison of yields in the 1870's with the 1920's. After 50 years of improved crops, more use of fertilizer and machinery, yields of cotton and corn had actually decreased. Erosion had thwarted the tremendous effort that had been made to improve yields.

One spring day I stood with Bennett in his garden and watched his blue eyes delight in the clod of soil he held in his palm and the tentative blades of green poking through the earth. "The soil is a mysterious and secret place," he said absently. And then I understood what could impel a man to spend decades imploring for better use of the land. Because he did, we today have soil conservation.

In 1933 he heard rumors that a new government relief program would spend \$5 million on building terraces. Bennett furiously stormed into the office of the Assistant Secretary of Agriculture and told him the idea was sheer folly. Terraces were only a *single* practice, he declared, and they were useless unless

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LET'S GO

Trail

By MICHAEL FROME

Photos by Clint Davis

THE Wind River Range was as "fresh and beautiful as if just from the hands of the Creator," wrote Alfred Jacob Miller, the western artist who was on the scene in the mighty Jim Bridger's own time. And the tourist who could go into ecstasy at the sight of Mont Blanc and a single Swiss lake, he felt, had a glorious future ahead of him here.

Today you could say almost the same. Or at least the Trail Riders of the Wilderness, after exploring the Bridger Primitive Area, the heart of the range, could echo Miller's enthusiasm. For here we found an incomparable, barely touched natural domain of tall timbers and a thousand clear lakes, of massive rock formations and living glaciers, of beauty in flowery alpine meadows, waterfalls, dark forests, and in the barren, snowy starkness high above timberline.

Add one other quality: the sense of discovery. By doing it the hard way, or the primitive way, on the back of a horse, in a gas-less, noiseless, machine-less aura, the adventure in the Wind River country achieves a depth that renders motoring elsewhere pleasant but slightly shallow by comparison.

For all its grandeur, ruggedness, and importance in western history, this region is incredibly little known, the undiscovered marvel of the Rocky Mountain chain. Hundreds drive by daily during the summer, bound for Yellowstone and Grand Teton National Parks, seeing the bluish-purple Wind River peaks from a car window.

The range, to properly set the scene, extends 97 miles astride the Continental Divide, and is almost entirely within the boundaries of Bridger National Forest. The Primi-

tive Area, on the western slope of the Divide, covers 383,000 acres, an area larger than Grand Teton National Park. It contains, geologically speaking, the Northern Massive, a concentration of great snowy cliffs just under 14,000 feet elevation, including Gannett Peak, the highest point in Wyoming; Fremont Peak, which General Fremont ascended on his vaunted expedition of 1842; and Mount Sacajawea, named for the Shoshone girl guide and heroine of the Lewis and Clark expedition. (She, incidentally, is buried at the Shoshone Reservation on the eastern slope of the Divide).

Precipitation, especially from snow, is heavy in the Primitive Area. Here we were to see creeks, streams, and rivulets flowing down from the heights to form the Green River, one of the storied bodies of American waters. From its source in these

No photo can do justice to rugged grandeur of "The Big Bowl" in Wind River Range.



Asst. Supervisor and Mrs. Bill Deschler,



AMERICAN FORESTS



Old Squaretop in the Bridger Primitive Area



Outfitter Walt Lozier feeds the hired help.

Riding

mountains, the Green heads south into Utah, where it joins the Colorado. On the eastern flanks of the Primitive Area, glacial and snow-formed streams, including the Wind River itself, flow into the Big Horn, the Yellowstone, and ultimately the Missouri. The northern waters are tributaries of the Snake River, flowing to the northwest.

The Bridger serves its greatest function as a watershed. Water from the national forest, estimated at 1,700,000 acre feet yearly, irrigates California's Imperial Valley, farms and ranches in Idaho, Washington, and Oregon, and finds its way to faucets and bathtubs in Portland, Los Angeles, and New Orleans. If we needed an economic justification to preserve the wilderness, its watershed value to half the country's land area would be more than sufficient.

Our trail ride started at the Box

R Ranch of Walt Lozier, the outfitter under contract with The American Forestry Association, in a green meadowed valley at 7,600 feet, at the edge of the wilderness. Walt, a strapping youthful six-footer, who looks and rides like a cattleman of the old school, had agreed to keep us fed, saddled, and dry (when possible), but he also proved to be a friend and guide to each of us. We numbered twenty-two, roughly half men and half women, and half of us tenderfeet. There were three doctors, a banker, businessman, girl biologist, teacher, secretary, and assorted others with equal rank and privilege.

Having drawn a brave black horse named Midnight, I fell in line heading up the open sagebrush hillside. Ahead lay an aspen forest, like a gateway to the timeless wilderness, the capital of Jim Bridger's world. Behind us, in the distance beyond

the Box R, I could see the silvery threads of Horse Creek and the Green River joining into one. The surrounding cottonwood flats there were the site of the annual fur trading rendezvous of the 1830's, when trappers and Indians converged after a long winter in these and other mountains all over the West.

A biographical world about Jim Bridger, for whom both the National Forest and the Primitive Area are named: He was probably the greatest of the mountain men. He had little learning, but spoke French, Spanish and a dozen Indian tongues—the western languages. He was a born topographer, who with a stick or a piece of coal could scratch on the ground a map more accurate than any made by cartographers. Generals he scouted for said he knew every mountain peak, deep gorge, and stream of the West. As a youngster

Anglers John O'Donnell, Bill DeWeese, Bill Burnham, Caroline Flaccus, Roger Keene, L. H. Kerr.



of 17, he first came to this corner of Wyoming with General William Ashley's Rocky Mountain Fur Company in 1823. In the next twenty years, in the course of his trading and trapping, raw-boned, gray-eyed "Old Gabe" discovered many of the landmarks between the Rockies and the Sierras. He was the first white man known to have visited the Great Salt Lake. He tasted the water, spat a mouthful, and said, "Hell, we are on the shores of the Pacific" (and actually thought the lake was an arm of the ocean). He may have been the first to make known the wonders of Yellowstone, which for years were called "Jim Bridger's lies."

Bridger ranged north to Canada, west to the Pacific, south to New Mexico, but almost every summer found him back in this country, and

especially in the cottonwood flats which we could see over our shoulders. There, between the two streams, Captain Benjamin Bonneville built his log fort in 1832. The valley became the nerve center and very heart of the mountain fur country. In 1829 and '32 the annual rendezvous had been held at Pierre's Hole, in the Tetons; in 1830 it was on the banks of the Wind River, across the Divide. But from 1833 to '37 (except for '34) it was held here. The pack train would come from the East to rendezvous with groups of trappers who had spent the year in the mountains; they would turn over their pelts for transport back to the states and be outfitted anew. It was not only the season for trade and supply, but for roistering. Hundreds of Indians, of nearly every tribe in the Rockies, would set up their

lodges and barter skins, robes, horses, and women, replenishing their outfits and filling themselves with alcohol.

More than one important historic event occurred at the Green River rendezvous. Even before the first big one, Jedediah Smith, a mountain man in the Jim Bridger class, struck out from here on the first white man's overland journey to California in 1826. Dr. Marcus Whitman, in pioneering the Oregon Trail, came to the rendezvous in 1835 (when he removed an Indian arrowhead imbedded in Jim Bridger's back for three years). Alfred Jacob Miller painted the scene from every angle; his famous lake pictures were of New Fort Lake, almost on the course of our Trail Ride.

We soon saw some beautiful lakes ourselves. There were so many of

(L to R) Dr. DeWeese, Dr. Boyden, Dr. Keene, and Ranger (standing)



Snow in July high in the Bridger Primitive Area.



them that the lake-namers of the past apparently had run dry of inspiration and simply called one group the "No Name Lakes." They were crystal-clear, unpolluted waters, the kind in which you could drink, swim (when the temperature was warm enough) and fish. We caught rainbow, cutthroat, and, at the higher altitudes, even the choice California golden, a fighting trout which bends a rod about as far as two-pound fish can bend it.

This was an almost every-day event, from the start. The first day, for instance, we rode 14 miles, which is not exactly a leisurely beginning, but our fishermen were out in late afternoon to insure trout on the next morning's breakfast menu. We had an early introduction at Section Corner to a moose, who agreed to keep his distance if we would keep

ours. Later there would be antelope and deer, as well. "Come back in the fall," Walt Lozier said while we were staring a deer in the eye, "and I'll show you how to catch him. Unless you want to go higher for big-horn sheep or bear."

Of our twelve days in the wilderness, eight were spent on the trail, four in layovers. Our daily mileage ranged from nine to sixteen, uphill, downhill, along rocky mountain crests and across streams and green meadows. In such an exercise, a horse is clearly man's best friend. A rider may have doubt about his ability to navigate a steep grade, but as long as he trusts his mount they will both make it. To show you how rugged the trip can be on the horses, every night the cowboys would change shoes on at least half a dozen.

Days in the Bridger refused to

blend into monotony. "There are no two alike here," said Ernie Rosenau, a New York photographic salesman back for his fourth year on this same ride. "Each day differs from the one before." The variety of scenery and geology in such a compact area was tremendous. The third day, for instance, we rode through spruce and pine stands along the shores of Trapper and Little Trapper Lakes, a favorite of the early trappers and a reminder of their role in the opening of the American West. They blazed trails, located water and grass, named the lakes and rivers. This was one of the few places where we encountered company, a handful of canoeers and fishermen who had hiked in. But even this remote corner we found afflicted with the chronic travel blight of litter in various

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At left Ernest Rosenau, of N. Y., looks on as Author Frome helps himself to seconds.



Trail Riders camp at Clear Creek in the Bridger—where moose came to call.



KENTUCKY FIRE CONFERENCE

By KENNETH B. POMEROY

LANDOWNERS, businessmen, housewives, educators, public officials, and other conservationists continued the crusade for better protection of southern forests as 250 Kentuckians met in Lexington on December 1-2, 1959. About 100 such meetings, attended by more than 25,000 people, have been held in eleven states since the initial conference at New Orleans in 1956.

Although state-wide protection in Kentucky was made possible last year by action of the General Assembly, lack of funds prevents extension of the program to some 3,500,000 acres in 50 of the state's 120 counties. This is about one-tenth of all the remaining unprotected forest land in the United States.

The most significant comment was that of Eagle Scout John Howard

Williams, Post 4, Lexington, Kentucky.

"Youth," he said, "has a bigger stake in fire prevention than anyone else because we will be living with it longer. . . . Unfortunately only a few have been given an opportunity to help through 4H clubs, FFA, and Boy Scouts. . . . Young people should be *asked* to help. . . . They can play a large role in fire prevention if given an opportunity. . . . This could be done by organizing hiking clubs and other interesting outdoor activities. . . ."

Uppermost in the minds of many key people was the need for money to launch fire prevention programs such as that suggested by Scout Williams.

Lt. Governor-elect Wilson W. Wyatt told the audience, "I am going to join with you in making for-

estry an outstanding activity in Kentucky. If the budget is not sufficiently adequate to do a first class job on forestry, then the budget to come before the legislature needs to be revised."

State Senator Edward Kelly of Flemingsburg said, "I shall recommend to the General Assembly that finances be worked out to fully implement the fire program. . . . Also I shall ask that the governor be given authority to close the forests during periods of emergency."

The Hon. Ray Moss of Pineville, though ill, sent a message endorsing better protection of the forests.

Actually the state's entire fire program needs to be strengthened. Key-note speaker **Dr. R. E. McArdle**, chief of the U. S. Forest Service pointed out that while Division of Forestry forces are doing an adequate job in normal fire seasons, they are spread too thin to cope with the critical years. Most of the time the average annual burn is held to less than one per cent of the protected area. But seven years ago 13 per cent burned.

"It's these occasional bad years—and you never know when such years will hit you," McArdle said, "that do the big damage. . . . You can't build a prosperous forest economy for Kentucky with losses of that size."

"The job," he said, "is to keep people from starting fires, and to control those that do start while they are still small. . . . The fact that 99 per cent of the fires in Kentucky are man-caused simplifies the problem somewhat. People are easier to control than lightning."

The goal, partially achieved in a few other states, is to hold burned

AFA Chief
gave banq

Attending conference (left) Chief R. E. McArdle, Forest Service, Gene L. Butcher, Ky. Div. of Forestry, Lt.-Gov. elect Wilson Wyatt, C. D. Dosker, pres., Gamble Bros.





AFA Chief Forester Kenneth B. Pomeroy gave banquet address at the conference.

acreage to one-tenth of one per cent of the protected area. The present average annual loss for all protected forests in the South is one-half of one per cent.

Adequate fire protection requires the expenditure of more money than is now being appropriated. Federal appropriations have remained almost stationary for the past four years although two new states have entered the union and millions of acres have been added to the protection program. Consequently the federal per acre share of co-operative programs is being watered down while states have picked up the tab by increasing their allotments from one to two million dollars each year. A more equitable distribution of responsibilities is needed. Originally legislation called for 50-50 federal-state co-operation. But the federal government is only appropriating half of its \$20 million annual authorization. The states have increased their allotments from \$33.8 million in 1957 to \$42.8 million in 1959. The estimated cost of providing nation-wide basic protection is \$83 million annually. Consequently both state and federal appropriations still need to be upped substantially.

At the close of the Kentucky conference, Laban P. Jackson, Commissioner of Conservation said, "Over 15,000 people, representing all of Kentucky's 120 counties, took part in the drive for state-wide fire protection legislation last year. The proposal passed the legislature without a dissenting vote, a remarkable achievement resulting directly from education of the people.

"Now we must implement the form
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Enthusiastically discussing educational activities in forest fire prevention program (left) Mrs. Ed Jackson, Mrs. Frederick Wallace, Mrs. H. N. Davis, Mrs. J. K. Grannis.



John Howard Williams, Eagle Scout, Post 4, Lexington, Kentucky, studies exhibit with Lester McClung, State Forester, West Virginia, at Kentucky's first fire conference.



Progress in fire protection in 16 Southern states since the New Orleans conference

	1955	1958
Area protected	183,000,000 acres	194,000,000 acres
Area still unprotected	42,000,000 acres	31,000,000 acres
Area burned on protected lands	2,000,000 acres	652,000 acres
Area burned, all lands	7,000,000 acres	2,500,000
No. fires on protected lands	62,000	47,000
No. fires, all lands	119,000	65,000
Set fires on protected lands	24,000	18,000
Set fires on unprotected lands		unknown

State-wide fire protection in force now in Alabama, Arkansas, Maryland, South Carolina, Virginia and West Virginia.

State-wide protection needed in Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, Tennessee and Texas.



The Agricultural High School of Baltimore County, Maryland, the year it opened, 1909.

Forester Apprentices

PART I

Author Russell Lord



WHEN I was in the last year of grade-school a man with earth in his veins, my father, grew so tired of the stockbrokers' business in Baltimore and of life in one of the snobier nearby suburbs that he bought a farm.

Harry Lord, his name was. He had little Latin and less Greek, but he knew his Tennyson by heart; the name of our place, "Iona," meaning the "peaceful isles," pleased him deeply. He was a great romantic about the virtues of farming as a way to live. Only one thing had bothered him about me back there in Roland Park, he confided to me years later. It was when I came home somewhat banged-up from my first fist fight with a neighbor boy and

explained gravely: "He said my father was poor."

Elite Suburbia, as the sociologists call it now, was no fit place as my father saw it even then to raise boys. Our removal to open country when he was still in his thirties proved a good move all around. For one, it almost made a forester of me. And this is how it all happened.

The summer of 1909, fifty years ago, had seemed in my young life a sort of entrance into Eden. Our fifty-eight acres was no great shakes amid such great places as the Merrymans' "Hayfields" and "Gerar," adjoining; but it seemed to me stupendous that my father should own all that land, and all the trees and streams and buildings on it, and the



By RUSSELL LORD

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animals. Besides, the family kept a carriage now, and the Negroes you passed on the road all touched their hats to you whether they knew you or not. These things filled me with tranquillity and made farming seem an elegant life. Not only that; I was now a mounted man, a horseman!

Toward the close of that happy summer I came riding the first horse ever given into my care, a tough little Chincoteague Island mustang named Gypsy, to the juncture of the old York Road and the Western Run Turnpike at the entrance to the Worthington Valley in Baltimore County. There was still a tollgate, tended by a harness-maker, there then. Riding by that day I saw a

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At forestry camp boys enjoyed Crocheron's woods course, taught in the out of doors



Boys practiced estimating timber

Marching off for day's work in the forest



The author, right, prepared "special" dishes



Apprentices during study period at the "school of the fields and the forests"



THE *Oregon* DUNES

By WILLIAM B. MORSE

The lines are forming on a proposal to create a national seashore in the Oregon dunes area. Proponents, including Senator Neuberger and the late Robert Sawyer, claim these dunes are superior to Cape Cod's. However, opposition to a new federal installation has already been voiced by Governor Hatfield, Ass't. Secretary of Agriculture Peterson, and others. This article presents the story as seen by the Oregon representative of the Wildlife Management Institute.

THE state of Oregon has been blessed with 312 miles of seacoast, considered by many people to include some of the most beautiful ocean frontage in the world. There are only four other states with a longer coastline, nevertheless the proposal to dedicate a 23-mile strip as a national seashore area has created a hornet's nest of opposition within the state.

The American Forestry Association should have a vital interest in the proposed Oregon Dunes. It is similar to the Atlantic seashore areas supported by the association, and also involves national forest and private tree farm lands within the overall boundaries.

Opponents of the Dunes National Seashore area have been extremely active; proponents, as yet unorganized, have not joined the battle for publicity. The project area is complex, as are the issues. It is difficult to strip emotional factors from consideration and look at the fundamentals involved; however, it can be done. It must be done to view the area in perspective, or at least in the perspective of what is most desirable for the long-range benefit of all the people.

The National Park Service published results of a privately financed survey early last year in a comprehensive volume called the *Pacific Coast Recreation Area Survey*. The report classified four areas on the entire West Coast as possessing unique qualities of national significance, one each in Washington and Oregon, and two in California. Soon after publication of this report,

Senator Richard L. Neuberger introduced S. 1526 to authorize the Secretary of the Interior to acquire not more than 35,000 acres in the Oregon Dunes-Sea Lion Caves as a national seashore recreation area. Since then, two more Senate bills have been introduced. S. 2010, the Administration bill authorizing three areas and naming one of them; and S. 2460 naming and authorizing ten seashore areas, including the Oregon Dunes-Sea Lion Caves.

The Senate Interior and Insular Affairs Committee has ordered two public hearings in Oregon on the Oregon Dunes proposal in early October. These hearings will provide an opportunity for all interested people to submit their views for the records and will make public that factual information vitally needed to properly assess the proposal for a national seashore.

That is the legislative situation for the Oregon Dunes. What, then, of the land? The 23 miles of coastline involved are located between the mouths of the Siuslaw and Umpqua Rivers. That section of the Oregon coast is characterized by easily eroded sandstones, and, as a result, large quantities of sand have been formed. For thousands of years, these sands have blown in shifting dunes, creating lakes, killing vegetation, and forming new vegetated areas and lakes. The dunes present an unexcelled example of nature's battle for individual survival, but some species do survive, and the forested areas on the east of the active dunes grow on ancient stabilized dunes. Geologically, the western coast is ris-

ing, and some of the older stabilized dunes reach a height of 450 feet above sea level.

There are three distinct land forms within the study area. The ocean front is a wide, fine-textured sandy beach. Inland is a large desert-like expanse of moving sand, swept by the wind into dunes, and farthest from the sea are the ancient dunes, now forest-covered.

Many lakes are found on the area, but three are large enough to be significant: 130-acre Cleowox; Woahink, about 800 acres; and 3,200-acre Siltcoos Lake. The latter two are located east of Highway 101 and are the major protrusion of the study area to the east. The remainder of the project lies between the highway and the ocean, averaging only one and a half miles in width.

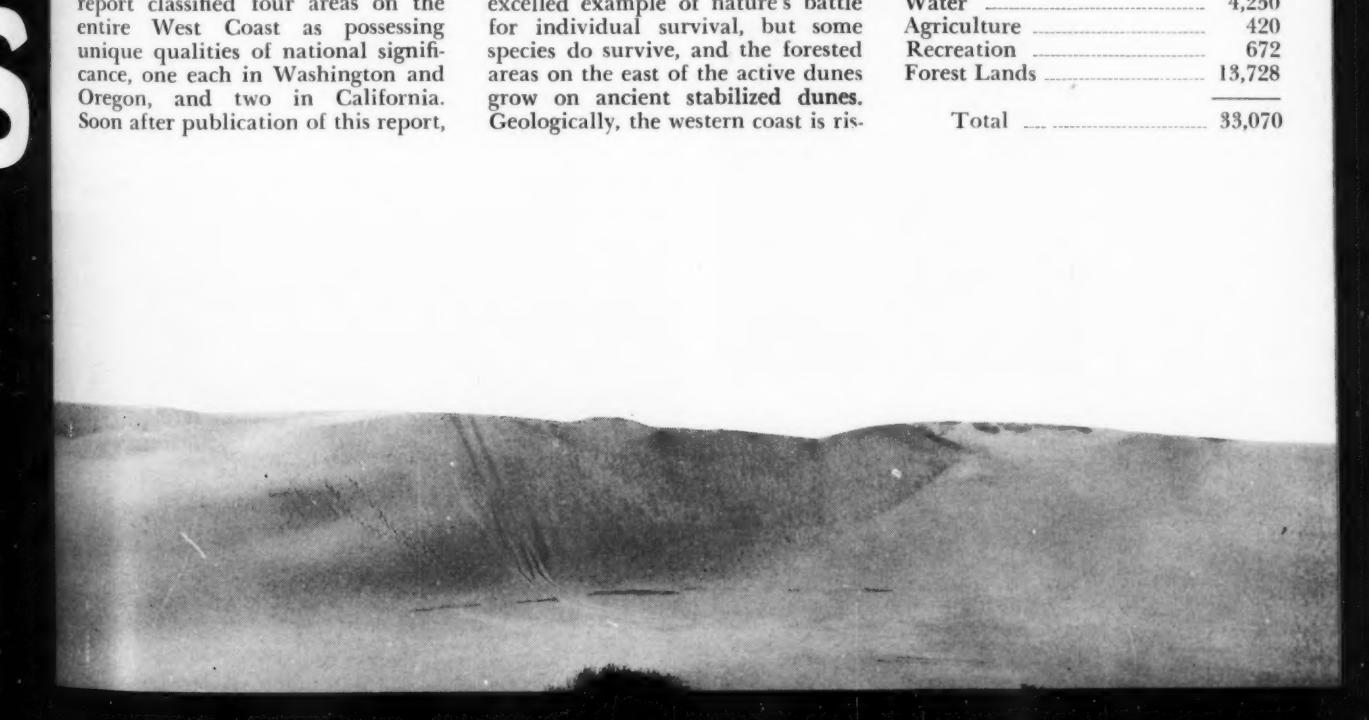
Land cover, use, and ownerships are best listed in tabular form.

TABLE 1. Land Ownership

Owners	Acres
United States	13,115
State	522
County	320
Private	14,863
Lakes	4,250
Total	33,070

TABLE 2. Land Cover and Use

Category	Acres
Sand	14,000
Water	4,250
Agriculture	420
Recreation	672
Forest Lands	13,728
Total	33,070



The Oregon Dunes Cont.

These figures do not include the area of the sea lion caves which will be discussed later.

The land owned by the United States is of special interest as it includes 11,260 acres of the Siuslaw National Forest.

Much of the land classified as timberland has been cut over and now is covered by brush, reproduction, and immature second growth. An estimated 1,600 acres of uncut commercial timberland remain in the area, a substantial portion of which is on lands near Siltcoos and Woahink Lakes that have been subdivided for homesites. The largest single private timberland ownership is in a Crown-Zellerbach Corporation Tree Farm and involves about 3,000 acres.

The two larger lakes provide mixed fishing for warm water species, and sea runs of cutthroat trout, steelhead, and silver salmon. Waterfowl utilize all the lakes in the area during the fall and winter months.

Barley and grasses are planted for waterfowl food under a co-operative state-federal project north of the Siltcoos Lake outlet.

The 522 acres owned by the state of Oregon are all in Jesse M. Honeyman State Park. This park contains Cleowox Lake, portions of the Woahink Lake, timber, beautiful rhododendrons, and striking sand dunes. The unique combination and intensive development make it one of the finest parks in the Oregon system. The stature of Honeyman Park is well shown by the increase in use from 222,687 visits in 1955 to 344,256 visits in 1957.

The Forest Service management plan for lands within the proposed seashore lists recreation as the primary use. Timber harvest will be confined to salvage of dead and dying timber. Present forest recreation developments include three forest camps and one Girl Scout camp. An estimated 107,000 visits were made to these units in 1958. New Forest

Service developments proposed include enlarging one camp, constructing five more camps, and building seven miles of road for beach and recreational access. Access to the beach and the dunes area is difficult. Parking space on the highway is restricted, and the only good roads into the dunes area are at Siltcoos Forest Camp and at Honeyman Park.

In general, the attitudes of residents in the two closest towns to the proposed Dunes Seashore are worlds apart. People living in Reedsport on the south end are generally favorable, while some from the town of Florence at the north end are actively opposed. Leadership in Reedsport is favorable. William M. Tugman, in an editorial in the *Port Umpqua Courier*, June 11, 1958, said, "There is every reason to believe that the national seashore will bring millions of tourists to this area the year around, that it will provide a balance to our economy

Tree Farm within proposed study area.



Dune area in Honeyman State Park.



Looking northwest over Siltcoos Lake to Honeyman State Park.



Timbered draws are engulfed by sand and the new areas of growth start.

we cannot achieve any other way. It will put an end to many real estate promotions and speculations. Over a period of time, which we will not live to see, it will restore to this area much of its primitive beauty and glory. . . . The national seashore will not make everybody rich. But if it provides a balance to our economy, it will reduce some of the staggering poverty that exists in all our communities today."

Some leaders in Florence take the opposite tack and are unalterably opposed to the project. Much of the opposition stems from residents within the study area who are concerned with losing their homes. Most newspapers in Oregon, however, editorially support a national seashore.

Charges and countercharges have filled the air. Park Service officials on the original survey have been accused of snooping almost to the point of being "Peeping Toms." All such charges have contributed to cre-

(Turn to page 44)

Trees gripped in battle for survival on Oregon dunes



Entrance to Sea Lion Cave just south of Heceta Head



"We expect long, trouble-free service—judging from our previous experience," states Mr. Wallace. "We just replaced a TD-14 that in four years of the hardest work we ever gave a machine had only one repair that put it out of action a few hours."

"Cycle-speeding TD-15 is our best bet for 'in-between size' contract-logging..."

Clark Wallace Logging Co.,
Mad River, California

"Like most contract loggers," reports Clark Wallace, "our operation is in between the small one where a single machine does everything—and the large one requiring several specialized machines.

"The International TD-15 is our best bet for an in-between tractor. It is faster than other equipment its size—with more clearance and more power to 'doze out' skid trails to the logs, and bring the loads to the landing, fast.

"Its fast cycle time gets these small logs out at low cost—yet the TD-15 has plenty of power to get in the big logs we have."

You get the power wallop and 6-cylinder smoothness of the millions-of-hours-proved D-554 diesel in the 105-hp TD-15. The "15" gives you the cycle-speeding advantages of a 6-speed full-reverse transmission—with "single-stick" shift and

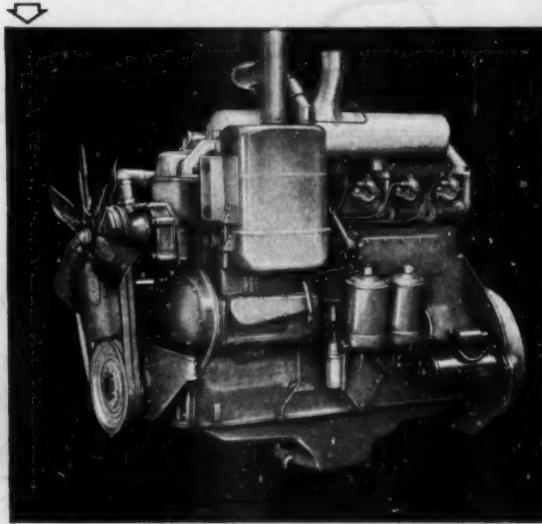
Shuttle-Bar forward-reverse control. Heat-defying, dry-type sintered-metal clutch facings provide high power-transfer efficiency; also simplify TD-15 clutch maintenance! And TD-15 super-strong track frames are equipped with 1,000-hr lube interval Dura Rollers—dual-protected for exceptionally long life in "eat 'em-alive" logging conditions.

See what's behind the new TD-15's quick climb to popularity—in class-topping, cost-cutting performance with 20,500 lb drawbar pull! Prove what it means to command industry-topping undercarriage strength teamed with TD-15 long-track stability—for big production in rough woods. See how decisively TD-15 log-skidding and dozing capacity beats anything else in the 100-hp class. See your International Construction Equipment Distributor for a demonstration!





You get the smooth power and big-load wallop of the millions-of-hours-proved International D-554 diesel in the TD-15. This power plant produces its 105 hp at 1,650 rpm—features famous International 45° angle operation, closed pressurized cooling, fully counterbalanced crank-shaft—and fast, all-weather gasoline-conversion starting!

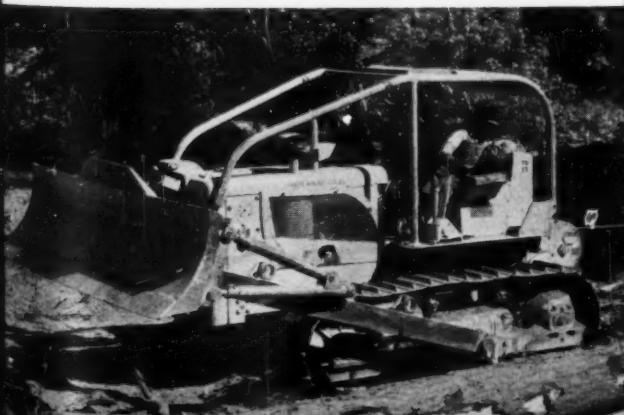


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On contract logging, the Clark Wallace operation skids to the landing and loads out 30,000 bf of Western pine and fir daily. All loading is done with an International Drott Skid-Grapple.



LAFADETTE County in northern Mississippi has staked a claim to being the most forestry-minded county in the U.S.A.

In the past ten years this county of 433,000 acres has seen 39 million pine seedlings planted on more than 1,100 private ownerships. On 15,000 acres landowners have girdled defective scrub hardwood to release fast-growing pine seedlings. In 1958, over half of the county's Agricultural Conservation Program allotment went for forestry practices. Eroded, understocked lands have increased in value from \$15 to as much as \$50 per acre five years after planting and release. An annual winter payroll of some \$80,000 has been created by forestry work in a county whose per capita income is among the lowest in the nation. The all-out co-opera-

tive effort on forestry problems by local agricultural leaders and landowners has attracted widespread interest. In a quiet, unheralded fashion Lafayette County has written a saga of successful forestry under bleak and unfavorable conditions. It is a story of people—all kinds—working together with agricultural agencies in such a manner that their story is worthy of nationwide attention. It is little wonder that Oxford, the county seat, advertises itself as the "Reforestation Capital of the World!"

More than a century ago this section was a center of wealth and culture. Lafayette County was the home of L. Q. C. Lamar, famous southern statesman and a Supreme Court justice, as well as Jacob Thompson, Secretary of the Interior

in President Buchanan's cabinet. Except for the cotton plantations, the land was covered with magnificent forests of pine and hardwoods. Streams ran deep and clear and game was abundant. Probably the most nostalgic of Lafayette's past is the memory of the University Greys, a volunteer regiment from Ole Miss which won imperishable fame from Manassas to Hatcher's Run in the lost cause. At Gettysburg they set the "high water mark of the Confederacy" at a point 47 yards beyond Pickett's men.

More recently, Lafayette County has had other claims to distinction. Oxford is the home of the University of Mississippi, Johnny Vaught's conquering Rebel football team, and the place from which Chi Omega sent forth two successive Miss Amer-

for Land's

Ten years ago this eroded and abandoned field was typical of many thousands of acres in this section of Mississippi.



icas. Internationally, Oxford is a literary shrine as the home of William Faulkner, Nobel Prize-winning author. To his readers Oxford easily becomes Jefferson and Lafayette the famous Yoknapatawpha County.

From the lush and prosperous days prior to the Civil War both the land and the fortunes of the people deteriorated. Unwise agricultural and lumbering practices coupled with forest fires and woodland grazing brought widespread erosion, sand-choked stream channels, and bottom land fields covered with sterile sand deposited there by frequent flood waters. Forests cover 57 per cent of the land areas in Lafayette County. Another eight per cent is idle crop land, once cultivated but now so eroded that its future value lies in converting it back into forest.

In view of its numerous sub-marginal farms, a decreasing population, and a per capita income around \$600, Lafayette County would indeed have been a long shot for the "most likely county to succeed" in a forestry derby. Foresters are well aware of the difficulties of persuading small landowners to practice forestry. This fact is especially true when the owners belong in the low income group. Unless there are trees of commercial value present so that forest management presents no financial strain, the low income landowner is unlikely to make an investment to gain the deferred benefits from tree planting or timber stand improvement. Even a few dollars an acre becomes too much to invest when the larder is low.

Just what are Lafayette County's

accomplishments in forestry and why did they occur? To begin, the county occupies a central geographical position in the Yazoo-Little Tallahatchie Flood Prevention Project. This intensive flood and erosion control land treatment program was started in 1946 by the Department of Agriculture to complement flood protection provided by the four large dams constructed by the Corps of Engineers. From the beginning, reforestation of 900,000 acres of eroded, understocked lands, with a primary objective of improving watershed conditions, was a prominent part of the Flood Prevention Project. Such a program, operating as it does almost entirely on private lands, requires the co-operation of many individuals and agencies for its success.

(Turn to page 46)

sake!

By V. B. MacNAUGHTON

Today, field boasts a thriving stand of pine, planted in 1949 by Yazoo-Little Tallahatchie Flood Prevention project.



*"Look...the
Steering Levers
are Gone!"*



now you STEER, STOP, and REVERSE
with the NEW JOHN DEERE

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Ease the stick forward, back, left or right—the way you want to go—and the John Deere Crawler obeys! Clutching is automatic—braking, too—so no footwork is required.

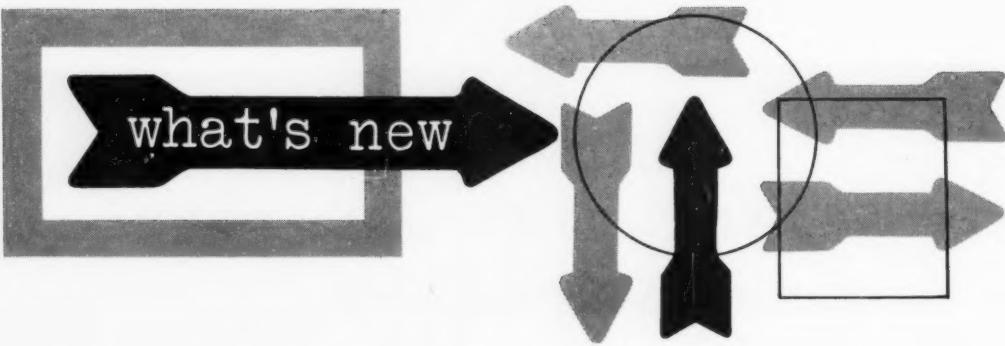
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TWO excellent water studies which came across our desk last month indicate a growing realization of the need to use water resources wisely. The first, a progress report published by the State Soil Conservation Committee, entitled *Water Resources of Virginia*, presents some of the problems confronting Virginia and suggests measures which may be taken to insure an adequate supply of water in the years ahead. The first step in this direction, as recommended by the report, is a co-ordinated, long-range investigation of the state's ground water resource.

The other study, *Water for Recreation—Today and Tomorrow*, is a special report of the Water Research Foundation for the Delaware River Basin. This report, the second of a series, deals with the recreation benefits that would be achieved as a result of multiple-purpose development of the river, including benefits based on fish and wildlife resources.

* * *

A "revolutionary" forest management vehicle designed to handle a wide variety of forest work has been announced by Timberline Equipment Company and Gar Wood Industries. Known as the **Buschmaster**,



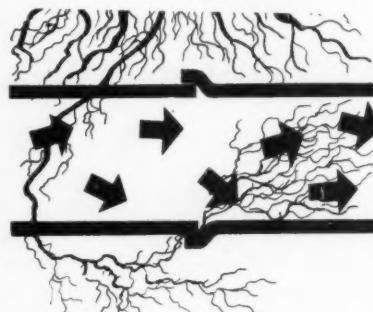
The Buschmaster

this rubber-tired vehicle is equipped with hydraulically operated bulldozer blade and grading blade, a self-contained water system, back firing system, a fire plow, and a

winch. A draw bar enables the **Buschmaster**, to handle scrapers, tree planters and other attachments. Among the jobs which can be accomplished by this versatile machine are fire fighting, building and maintaining roads, earthmoving, planting, site preparation, spraying, and building fire lines.

* * *

Prod Root Destroyer is a noncorrosive and non-caustic chemical developed by the Products Chemical Company to remove blockages from drains. It may be inserted through the toilet stool or through the base-



How Prod Root Destroyer works

ment drain. Root blockages are caused by small tree roots which penetrate the tile line. The roots will flourish and grow inside the drain until either a partial or complete blockage occurs. For further information write: Products Chemical Company, 3721 North Glebe Road, Arlington, Virginia.

* * *

The latest publication to enter the natural resources field is the *National Wildlands News*, published and edited by Devereux Butcher of Washington, D. C. The objectives of this monthly publication are: 1) To defend our national parks, national monuments, and national wildlife refuges from harmful and inappropriate use and to preserve

them for the purposes for which they have been established, and 2) To defend wildlife wherever it is, and encourage a more humane attitude toward it.



The "Goer"

The U. S. Army has announced development of a new type of off-road military transport vehicle, dubbed the **Goer** for its "go-anywhere" mobility. The **Goer** is a strict departure from conventional Army trucks and transporters. For the most part, **Goer** design principles and components have been adapted from those which have given mobility, agility, and durability to commercial earth-moving machines in the United States since before World War II: here basic standard components for modern commercial equipment are represented, but they are assembled in a manner which creates an entirely new machine. Conceived by the members of the Continental Army Command (CONARC) Armor Board, the **Goer** was designed and built by LeTourneau-Westinghouse, under the auspices of the Ordnance Tank Command, Detroit Arsenal.



Cornell Automatic Hydraulic Slab Saw

A new automatic hydraulic slab saw which doubles sawmill output is being introduced to sawmills by the Cornell Manufacturing Company. Field use has proven that the new saw

will outperform any conventional saw in use today. The new saw cuts slabs up to 26 inches wide and adjusts to from 6-inch to 24-inch cutting lengths, with longer lengths on order. Unique, and highly praised by operators using it, is the pair of adjustment valve features that enable individual adjustment of cutting and return stroke speeds. Cornell claims that operators have attributed doubling of slab output to use of the new saw; for more about this, write Cornell Manufacturing Company, Laceyville, Pennsylvania.

American Forest Products Industries, Inc. has launched a BUSY ACRES PROGRAM in three states—North Carolina, Florida, and Mississippi. This program is the first step in tree farming, and promotes the conversion of idle lands into income-producing tree farm acres by growing regular crops. The essential ingredients of the BUSY ACRES PROGRAM are a "how to do it" booklet, a series of BUSY ACRES ads for use by industry in calling attention to the program and booklet, and a series of editorial cartoons for use by the newspapers. AFPI said that present plans call for the initiation of BUSY ACRES PROGRAMS in Massachusetts, Wisconsin, Illinois, Arkansas, Maryland, Texas, and South Carolina during the coming year.

A compact Gill Spark Arrestor for gas or diesel engines using a four-inch exhaust stack is perfected, reports the manufacturer, Erickson Products Co. It is primarily designed for large trucks, tractors, loaders and other equipment used in forests, fields, brush, and other hazardous areas where incandescent exhaust carbon can start fires. In those areas, according to the Forest Service, spark arrestors should be used.

The Fine Hardwoods Association introduced a new booklet last month, *10 Most Frequently Asked Questions About Fine Cabinet Woods*. This 24-page hand book is designed to perform two functions: 1) A useful information guide to the retail salesman, the home furnishings editor, the retail advertising copywriter, and 2) A guide to selecting furniture and interior paneling for the homemaker. Requests for the booklet should be addressed to the Fine Hardwoods Association, 666 Lake Shore Drive, Chicago, Illinois.

The quality of your matured trees depends on your original choice of stock.

Prime Timber begins with the seed. Musser's foresters select the truest strains of seed from mature, hardy, disease-resistant parent trees both in the United States and Europe. Good heredity characteristics are a Musser requirement.

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Excellent for Timber or Christmas Trees
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Suitable for Field Planting

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One of the Best Timber Species
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All our 3 and 4 yr. Seedlings

are root pruned.

NORWAY SPRUCE —

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Seed collected by our men
from selected trees

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DOUGLAS FIR — Hardy per 1000

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Superior Stock per 1000
3-yr. Seedlings, 6" to 10" \$60.00

Many other Evergreens,
Ornamentals, Shade Trees

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with wholesale planting list. Ask for
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BOX 27-A, INDIANA, PA.

MUSSER FORESTS, Inc.

Hugh Bennett: Messiah of the Soil

(From page 19)

combined with dozens of others—like contour plowing, strip-cropping, grassed waterways—which Bennett and other soil scientists had developed.

Result: Bennett was put in charge of a new Soil Erosion Service. There weren't 50 men in the country at that time who knew anything about soil conservation, but he inveigled them away from other governmental agencies and the states. In only a few months they had trained thousands of others in the methods of soil conservation. Then, with Bennett's furious energy providing the push, 40 demonstration projects were set up in 31 states, covering four million acres of land, to show farmers the benefits of conservation.

The new agency ran head-on into the dust bowl. Soil from fertile farms in the West blew into New York skyscrapers and coated ships 300 miles at sea. The United States was shocked into the sudden knowledge that something had gone horribly wrong with the land. The soil scientists who had spoken so glibly about "toxins" were demoralized. Only Bennett had a program, and he was called to testify before a Senate committee which was considering the establishment of a permanent Soil Conservation Service.

Once again Bennett seized opportunity. He delayed his appearance, then suddenly rushed to the capitol. He told a grim tale of waste, piling up figures and facts. He showed pictures of American farms that looked more like moonscapes. He droned on, and on. The senators began to fidget, but Bennett was delaying for a reason. He had followed the progress of a big dust storm from its origin in New Mexico past Cincinnati. He had checked Weather Bureau reports and was certain it would reach Washington that day.

As he spoke the committee room grew slowly dark; the sky turned copper color and a fog of dust rolled in to blot out the sun. The air became choked with the tons of fertile topsoil from 2000 miles across the continent. It was as if the land had cried out to the senators to do something, and as they watched aghast, Bennett clinched his argument: "This, gentlemen, is what I have been talking about!"

Congress immediately and unanimously passed the bill creating the Soil Conservation Service, the first soil act in world history. The whole country girded for the conservation

battle. A typical example is Representative Ben F. Jensen of Iowa, who made the main plank in his platform the promise that if elected, he would do everything possible to help Hugh Bennett. His first day in Washington, before he had even unpacked, he had been recruited: Bennett whisked him off to Virginia to make a conservation speech. "Soil conservation suddenly came of age," Jensen told me recently. "I didn't know a single Congressman who wasn't all for it."

Yet, by 1937, it became obvious that so despoiled was the land, it would take the federal government, acting alone, roughly 2000 years to get the conservation job done. Bennett had earlier suggested that much of the program be turned over to farmers to run. The response was immediate, and in only a few months 22 states passed special legislation allowing the farmers to set up self-governing Soil Conservation Districts.

Soil conservation was now in the hands of farmer-elected farmer-governed districts which set up their own goals; the Soil Conservation Service gave them only skilled technical advice. As Bennett told me: "We may have been the first and only bureaucrats in history who ever voluntarily turned over their jobs to local people."

Within five years, the rate at which conservation was applied to the land increased tenfold. Everywhere machines were laying out terraces and gouging farm ponds; whole farms were being rearranged. Quipped former Secretary of Agriculture Clinton Anderson: "Bennett is responsible for moving more of the earth's surface than all the glaciers in American history."

No sooner had Bennett organized and staffed his service than many of his men were called into the Armed Forces, just before World War II. They never really left SCS. Bennett asked them to observe soil conditions around the world, wherever they were stationed. They did. His files soon became crammed with scientific reports about erosion wherever Americans were fighting. Even while digging foxholes some of them noted the soil types and profiles. Bennett's concern about the world's hungry populations went deep. During the war, he made trips to South America and Africa to try to increase food production there.

Soon after SCS was set up, foreign

trainees began to arrive at Bennett's office in droves. Some spent only a week, others as much as a year. Then most of them returned home to duplicate Bennett's work in their own lands. During the war Bennett himself went to South Africa, where he trekked through 10,000 miles of hinterland and took busloads of farmers and political leaders into the field to see how the land was suffering. It was like young Bennett starting all over again. Only this time the people responded immediately. They passed a Soil Conservation District Act similar to our own, and in a terrific burst of energy have applied conservation throughout almost the entire country.

Bennett was untiring during his trip to Africa, and continuing his strenuous efforts to make barren acres around the world bloom again he trudged through North Africa, France, Italy, Venezuela, and elsewhere.

When Bennett retired in 1951 from SCS, he was able to report conservation had become a worldwide movement. More than 1100 foreign technicians from 88 countries had come to the United States to study his methods, and most of them had returned home to duplicate his work. At least 32 foreign countries have set up soil conservation programs patterned almost exactly after our own. A 300-page manual on soil conservation methods, guided by Bennett for use in foreign countries, has been translated into three languages and more than 40,000 copies have been distributed.

In this country, his retirement has brought no slackening in soil conservation efforts. Today there are over 2800 Soil Conservation Districts in all 50 states, and 20 states are completely blanketed by them. Co-operating with these districts in applying the practices which Bennett pioneered are nearly two million farmers and ranchers operating well over 500 million acres. Already about a third of this country's agricultural land has been given complete conservation-proofing, and nearly 25 million additional acres are being added every year. It is hoped that in only two more decades, the damage done by centuries of misuse will have been repaired.

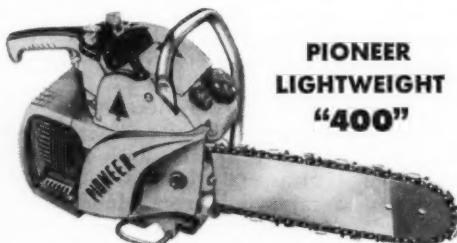
Retirement has given Bennett the leisure to work with foreign governments he always desired. He is such a good land diagnostician that in a



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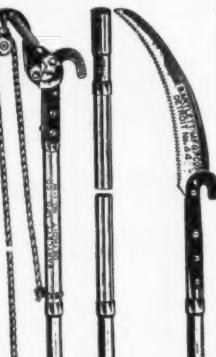
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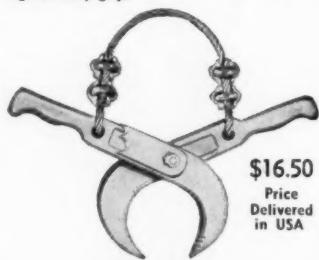
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short visit he is usually able to detect where the sickness in the land lies, and to prescribe treatment. Usually he receives no payment for the months of hard work he contributes.

Brazil called him a few years ago to look at the soil conservation program and be sure they were doing the right things. The Argentine found that it had a 40-million acre dust bowl and hurriedly issued a call for the American land doctor. Spain similarly invited him over three years ago to make suggestions about their land-use problems; he did, and on a return trip last year found that now they are doing one of the best conservation jobs in Europe.

Bennett has received much formal and enthusiastic recognition. Three universities have presented him with honorary degrees, and Cuba awarded him its Order of Merit. The enthusiastic farmers of Ohio erected a

monument to him; an Inter-American group nominated him for the Nobel Peace Prize. But his most enduring monument is the very face of the land, now blooming where once it was wasteland. On a plane trip over the American continent we can best see the works on the land which Bennett crusaded for: the rippling of terraces, the waves of contoured fields hugging the hillsides, the quilt-work of crops grown on the best-suited land, the bright diamonds of farm ponds set on green fields.

The mission which a shy, ungainly Bennett undertook 50 years ago is still not completed; hundreds of thousands of acres are still lost every year through erosion. But the tide has turned. Said the National Audubon Society when it presented Bennett with its highest award: "With boundless good will, he has shown us how to restore our damaged land, how to prevent further destruction. He gave us hope."

Let's Go Trail Riding

(From page 23)

forms. To control it probably is a difficult problem for the Forest Service, but steps in that direction were obviously needed.

This same day, we ascended to Crow's Nest Lookout Point and signed our names in the register placed by the first group of Trail Riders to explore the Wind River Mountains in 1935. Almost 2000 feet below us lay Pine Creek Canyon, extending eastward to Fremont Lake, the largest natural lake in Wyoming except for Yellowstone.

We were now in the country which General J. C. Fremont probed in 1842. On the fifth day, we camped at nearly 11,000 feet at Fremont Crossing, at the base of the mountain he had climbed and named for himself. His expedition, guided by Kit Carson, was directed by the government to study "the rivers and country between the frontiers of Missouri and the base of the Rocky Mountains; and especially to examine the character, and ascertain the latitude and longitude of the South Pass, the great crossing-place to these mountains on the way to Oregon." After reaching South Pass, below the tip of the Wind River Range, Fremont continued to the headwaters of the Green River (which we soon would see), then was drawn to the higher peaks by their icy caps glittering in the bright August light. Fremont actually mistook the highest peak—but chose the most spectacular, a jagged

truncated mesa of stone. He and five companions worked their way to the summit, first riding beneath a nearly perpendicular wall of granite, then afoot in thin moccasins of buffalo skin. He drove a ramrod in the rock and, he wrote later, "unfurled the national flag to wave where never the flag waved before."

Now we were less than 2000 feet away from this site. Around us were the great peaks flush against the Continental Divide: Gannett, Lester, Sacajawea, Warren. Melted snow cascaded from ledges into waterfalls feeding cold lakes and streams. On the layover day here, some of the group climbed a thousand feet to Indian Pass, from which they could see the Dinwoody Glaciers, the snowy peaks of the Three Tetons, far northwestward, bright in the haze, and the forested trough of the Wind River Valley across the Divide. This was also the great day for rainbow fishing at Island Lake and the Titcomb Lakes.

But as Ernie said, and he's the man who knows, no two days are alike. Leaving Fremont Crossing we went across a snowbanked pass at 11,000 feet and saw icebergs in Elbow Lake. Dozens of granite boulders, upthrust by glacial action and looking much too unreal, lined the stark horizon above us.

Then we descended below timberline. Our campground in Trail Creek Valley was bordered with

spruce, alpine fir, and a wall of mountains, with an occasional lodgepole pine growing out of the rocky cliffside. Around the campfire, Walt told us how he got into outfitting pack trips.

"I was born at the ranch we started from," he said. "My parents homesteaded in 1900, when they came from Colorado in a covered wagon. Then my father became one of the first outfitters around Pinedale. In those days he would take a wagon-load sightseeing up through Yellowstone, then hunting for big game in the autumn on the way back."

"I didn't have much schooling, but I've always loved these mountains and the greatest career in the world, as I see it, is to spend one's time right here. Well, I started renting horses for a dollar a day when I was fourteen and started outfitting on a small scale. I rodeoed for twenty years, bronc riding and bulldogging, and once owned 60 head of bucking horses."

"As a cattle rancher, I once had 400 head at the most. Now we've got about 125, almost all Herefords. This was great cattle country, but I think we've learned that areas down south are far better today. As far as I'm concerned, the future of this wilderness—and I hope it always is a wilderness because that's how I've known and loved it all my life—is in parties like the Trail Riders. They give access to these areas and make the wilderness serve a real purpose for people."

Walt's chief assistant and fellow enthusiast, his wife Nancy, looks and rides like a Wyoming girl, but came here in 1940 as a Rhode Island "dudeen" and stayed to marry Walt. By this time we realized that they and the eight wranglers along have a real logistics problem in outfitting the Trail Ride.

"We prepare for this trip all year long," Nancy explained. "Everything is planned and the menu of every meal written down. Right now there are 82 animals here, including 18 mules. Of course that sounds like a great many for 22 Trail Riders, but don't forget all that gear you brought along, and the food, too."

Baggage in the wilderness is toted in panniers, cow-hide covered boxes (adapted from the French word meaning breadbasket), strapped to pack horses and mules. Our group required no less than 40 panniers, 18 carrying duffel and gear, 22 carrying food. The food, incidentally, ran from hotcakes, eggs, and trout for breakfast to steaks for dinner with fried bread and, for an extra

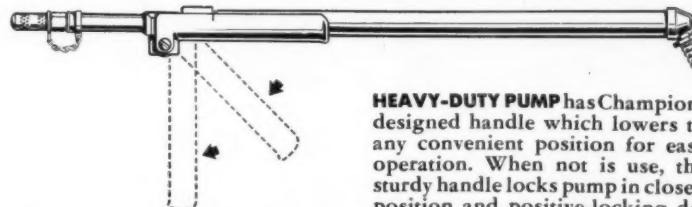
fillip, deep dish blueberry pie cooked in a dutch oven.

There was no let-up in beauty or discovery the last days. Woods and valleys were carpeted with wildflowers—lupine, geranium, Indian paintbrush (the Wyoming state flower), buttercup, bluebell, sunflower. At one point we came to the confluence of plunging streams forming the Green River—and the color really is green, caused by glacial particles suspended in the water. At another, we passed Old Squaretop, a towering 3500-foot rock in a field of deep blue-green Englemann spruce. From our camp at Clear

Creek we climbed White Rock Mountain and found incredible fossils of imbedded seashells and crustaceans left by the eons-old inland sea.

I could go on with the wonders of wildlife, natural history, and scenery right until the time we headed down toward the Lozier ranch and civilization. But better yet, I think, would be to suggest that you saddle up, tighten the cinch, and experience the magnificent Bridger Primitive Area for yourself. Trail riding is not arduous, if you've done even a little riding lately, are conditioned to outdoor living, and don't expect too

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much convenience. As Walt Lozier noted, age is neither an asset nor a barrier; a 65-year-old in condition is better equipped for the trail than a 25-year-old who is not in shape.

If I were to be critical at all, it would be to suggest that *somebody*, the Forest Service, the AFA, or the outfitter, ought to plan an interpretive program for the Trail Ride. Fishing and hiking and horseback riding are wonderful, but still come under the heading of physical exercise, whereas the reason for preserving the wilderness, and the means to understand its botany, history, geology, and its role in the future American scene come under other, broader headings. Singing around the campfire is great fun, but

I think it would be fun, too, to sit around and review the lives of the Bridgers and Fremonts, the actions of glaciers above us, and the ways of wildlife. At a time when experts have so many plans for disposition of the wilderness, enlightened use, and not only physical exercise, will help immeasurably to place it in its proper perspective.

But most important, a pack trip in the Bridger is endowed with the absence of artificial noises, and the absence of artificiality. The Trail Ride lasts only two weeks, but its benefits to physical and mental well being endure for months afterward. Here it is winter and I can still feel that last gallop aboard good old Midnight into Lozier's corral!

The Oregon Dunes

(From page 31)

ation of an emotional climate which may require years to correct. Some level heads prevail, and it is worth noting that the County Court of Douglas County, where 40 per cent of the seashore is located, has approved the project by resolution. The County Park Boards of both Douglas and Lane Counties have done likewise. The entire area is located in these counties. The state of Oregon has yielded to local pressure, sidestepped the issue, and withheld decision pending further information.

There is little question that the Oregon Dunes are magnificent. Dr. Ira N. Gabrielson, President of the Wildlife Management Institute, says, "In my opinion, it is the finest dune area in North America."

Most of the opponents recognize that development of the dunes themselves would be desirable. It is the lake area to the east, location of residences and business, that is controversial. The Park Service says there must be space for camp grounds, picnic areas, and water-type recreation in the project. The present boundaries will give a good cross-section of the entire ecology from beach to ancient dunes.

Much of the present trouble stems from lack of information. The boundaries set up now are only boundaries of a recommended study area. Until some legislation authorizes the Park Service to make a detailed and complete survey, they will not know where the final boundary of a national seashore should be. A great deal of the opposition would not exist if a final recommendation for the Dunes Sea-

shore boundary could have been made initially. The Park Service has some economic studies under way, and boundaries of the study area have been changed, but this information has not yet been released.

One great advantage to be gained by a national seashore is money. Conservative estimates by the Park Service indicate that in the long run, a national seashore would bring twice as much money into the immediate area as would use of the existing resources without a national seashore. Some conservationists, author included, believe the seashore would add at least \$40,000,000 per year in increased tourist business to the entire Oregon coast. Recreation development can bring immense amounts of money to an area. Douglas County's Salmon Harbor Park, just south of the Dunes area, brought an additional \$2,000,000 into the immediate area last year. Proponents point out that if a small regional development can do this, a large national area would accomplish much more.

Residents of the area fear loss of tax revenues, particularly local school taxes. Every group in favor of the seashore would help secure amendments to any pending legislation providing for federal payment to local taxing districts of money in lieu of taxes, such payments to be on a diminishing basis for a stated term of years. As payments decreased, the local tax base would increase by construction of tourist-serving businesses near the area. Precedent exists for this in the Grand Teton National Park.

Local residents feel that their

homes will be condemned and confiscated. This belief still persists in spite of assurances by the Park Service that they rarely condemn real property, and, in many cases, they can make life tenure agreements to allow the people to use their homes rent free for life.

Another criticism is that dune stabilization programs will cease and rolling dunes will inundate the entire area. Again, the Park Service has promised to protect river harbors, lakes, camp grounds, and the major highways. After all, much of that part of the coast consists of ancient dunes, so dunes, moving and stabilized, are a geological process.

Forestry and timber production are a basis for other criticisms of the project. The timber on the homesite and state park areas is, and will continue to be, unavailable. Forest Service land produces little merchantable timber and because it is now classed as a recreation area, will contribute little toward regional timber production. That leaves the lands in the Crown-Zellerbach Tree Farm, most of which are at least 70 to 80 years from another harvest. Crown-Zellerbach is opposed to the project and believes that any additional park development should be undertaken by the state. These lands are rough and presently have limited scenic values, although they do border the south end of Siltcoos Lake. Some proponents feel that the bulk of this tree farm land could be excluded from the project, although it might be necessary to acquire a buffer strip along the lake for scenic purposes. A few small tracts of other commercial timberlands are in or adjacent to the study area, but their small size will cause little impact on the regional wood-using industries.

The Forest Service has not officially released their views of the project. It is likely that they will oppose placing any of their land in the project. They have done a good job of recreational development and hope to do a better one in the future.

The Sea Lion Caves portion of the Dunes project has been non-controversial. This 180-acre unit is located six miles north of Florence and is not contiguous with the large Oregon Dunes unit. The caves are large, natural, sea-swept caverns in a rocky promontory and are of national significance as the only known mainland rookery of Stellar's sea lion. The caves are privately developed as a tourist business. No one, including the owners, has objected

to the proposal to include the caves in a national seashore. The State Game Commission feels that any recognition given sea lions will make it more difficult to control their numbers in spots where they feed on salmon. Some Oregon fishermen have long blamed sea lions for decimating salmon runs and have been vociferous in demands for control measures. Over-fishing, pollution, dams, and destruction of spawning areas kill countless salmon, but it is convenient to blame much of it on the sea lions.

The concept of a national seashore is new, but national parks are familiar to all. It is difficult for many people in Oregon to understand the great difference between the two. There are many recreational uses that may be permitted on the national seashore, although prohibited in a national park. The state may be allowed to manage fishing and waterfowl hunting on a seashore. Boating, water skiing, and beach buggies can all be permitted on a seashore. The seashore emphasis is on recreation, not on preservation as in the national parks.

There has been some question as to the future of Honeyman State Park if a national seashore is established. The Park Service says it could remain under state operation if the state desired. It would be illogical to have two park agencies operating in one area, and Oregon would be wise to turn the park over to the Dunes National Seashore if it is established and spend their operational money on another coastal park.

A most important element of the Dunes problem is water. Industrial development in coastal Oregon has been handicapped by lack of water, particularly in the late summer when river flows are low. It has been known for many years that dry-looking sand dunes store vast amounts of rain water; European cities have tapped this source for many years. Federal experiments showed high water potential in Oregon's sand dunes several years ago, and recent tests by an electric company were so successful that a new pulp and paper mill will be constructed about 20 miles south of the proposed seashore and will secure the necessary industrial water solely from dunes.

The water potential on the Oregon dunes is seldom mentioned by opponents, but is always in the background. Many people agree with the *Oregon Journal*, which said editorially on July 15, 1959, "... The Florence area dunes have tremendous

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value for recreational purposes probably outweighing what worth they might have as an industrial water supply. Nobody knows, for instance, what effect the pumping of water from these dunes would have on adjacent fresh water lakes, which are prime recreational attractions."

The leader of the Dunes opposition organization, called the Western Lane County Taxpayers Association, has described his group as a very fluid organization. This is an apt description; an observer or investigator gains an impression that one of the real issues behind their opposition to the Dunes is like their organization—fluid. The fluid is potential water development, and the devil take lake levels and recreation.

Those are the major valid criticisms of the Oregon Dunes Seashore. Why should an area like this be proposed where there is already much federal land and some recreational development? Senator Richard L. Neuberger says of the Oregon Dunes, "Within a comparatively brief span of years, our nation's population will soar to the 300,000,000 mark. We cannot afford to delay decisions which ultimately must be made to preserve unique scenic areas for the recreation and enjoyment of our citizens. The Dunes area of the Oregon seacoast is one section of America's shoreline which is worthy of national recognition and preservation. This is the objective of the legislation I have introduced to establish the Oregon Dunes and Sea

Lion Caves National Seashore Area. Its exact boundaries and the portions of adjacent land, water and forest areas which should be included can only be determined after thorough study and review. One step in such determination occurred last fall when the Senate Public Lands Subcommittee, of which I am a member held congressional hearings in the immediate vicinity of the proposed park development. I hope that this will lead to early action giving park status to the Oregon Dunes so that citizens of Oregon and the entire nation can share in the benefits."

Other proponents also believe that the area possesses such unique and magnificent attractions of national significance that it could be best developed, operated, and interpreted by the National Park Service. They believe that it will be of financial benefit to the state and of cultural benefit to the nation if an Oregon Dunes National Seashore is established. The agencies developing and managing the lands now have done a fine job, but the Oregon Dunes are worthy of a co-ordinated development by one agency, rather than a piecemeal development by many. These same conservationists know that every national park and national seashore was established against strong local opposition, and every one has been an economic asset to the surrounding area and a cultural asset to the nation.

For Land's Sake!

(From page 35)

Results achieved in forestry testify to the effectiveness of the co-operative effort. Since 1948, 39 million loblolly and shortleaf pine seedlings have been planted on some 36,000 acres in Lafayette County. Timber stand improvement has been accomplished on 15,000 acres. Of the 2,500 private land ownerships in the county, over 1,100 have received some kind of forestry attention and assistance.

The presence of the Flood Prevention Project represents only one reason for the Lafayette County forestry success. To herald one reason, one man, or one agency becomes like trying to isolate a single note in a symphony or one color in a rainbow. Perhaps overriding is the recognition in the county that forestry is an integral part of a farm operation and therefore is of interest and concern to all. In this respect Lafayette

County is in a very favorable position. Specifically, however, there are five agricultural and forestry agencies which have furnished materials, technical assistance, and manpower to the forestry cause in Lafayette County.

The Soil Conservation Service through the Soil Conservation District assists co-operating landowners with the preparation of a farm plan. This plan, developed by a trained farm planner with the participation of the landowner, provides for the best land use in keeping with the owner's type of operation and land capability. About 1,400 of these plans have been written and used in Lafayette County.

John King, the County Agricultural Extension Agent, has recognized forestry as an integral part of the economy of the county and has given it liberal, wholehearted sup-

port. He provides office space for the state's area forester and takes orders for seedlings purchased from state nurseries. Both state and federal foresters help the assistant county agent with forestry projects in the 4-H Clubs.

With the support of W. P. Cox, ASC office manager, Travis King, SCS work unit conservationist, and John King, county agent, forestry has become a full-fledged member of the agricultural family. The prodigal son of conservation has been away a long time, but in Lafayette County he has at last returned home with honor and status.

The Mississippi Forestry Commission furnishes an effective fire detection and suppression organization, administered by a resident area forester. This state agency is a source of pine seedlings and technical assistance to landowners. It participates in the Conservation Reserve and Co-operative Forest Management programs and furthers forestry through news releases, movies in schools, and an annual Queen of the Forest contest.

Through agreement with the Mississippi Forestry Commission and the local Soil Conservation Districts, professional foresters are provided to give technical assistance to landowners who participate in the Yazoo-Little Tallahatchie Flood Prevention Program. In Lafayette County and other parts of the project area, these foresters also service the planting and timber stand improvement practices of the Agricultural Conservation Program and contribute to fire prevention and suppression activities in co-operation with the Mississippi Forestry Commission.

Effective as these groups have been, it took the Agricultural Conservation Program to provide the financial fuel that put this forestry rocket into orbit. Incentive payments are not unusual in American agriculture, but in the old Production and Marketing Administration program forestry practices had few takers in this county. Most of the county allotment was used for pasture practices. In 1958 Lafayette County reached what may well be the high water mark in forestry under the ACP in the United States. An unprecedented 52 per cent of the annual county allotment was spent for forestry practices. Landowners received cost-sharing assistance totaling nearly \$52,000. With this money, plus a substantial personal ante of their own, 154 landowners planted 3.1 million seedlings on 3,075 acres of eroded, unstocked land. They al-

so accomplished timber stand improvement on 5,644 already tree-covered acres. This would be rated forestry effort of considerable magnitude anywhere, but in a county with a very low per capita income and land conditions which are often disheartening, it represents a remarkable performance.

In Lafayette over 90 per cent of the forestry work is accomplished by a group of men called "vendors." Trained and inspected by professional foresters, these men organize crews of laborers and perform the planting or timber stand improvement. Their pay is the ACP cost-share plus an additional amount from the landowner. There are 16 vendors in Lafayette County; they not only perform the forestry work laid out for them on the ground but they also effectively sell forestry to their neighbors. Some of them work almost the year round while others work only to fill in between crop seasons.

Typical of these vendors are Hargis Hamilton, Chandler Karr, and Jim Q. Tatum of the Taylor community. Highly successful farmers and descendants of the earliest settlers in this county, these men have viewed the changing land use picture for

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half a century. Where once they cleared, burned, and plowed up the hillsides for crops of cotton and corn, they now confine their farming to the valley land and plant trees on the hillsides. Between them these three men have planted over twelve million trees and completed timber stand improvement on some 2,000 acres in the county. There must be not only a will but also there must be a way, and well trained, experienced vendors offer one road to successful forestry on private woodlots.

The long-range benefits of tree planting and timber stand improvement are fairly well known and accepted. The watershed improvement through reduced runoff and sedimentation from fully stocked timber stands on over half the land area of the county is the number one objective of the Flood Prevention Project. However, even more attractive to the landowner is the potential increase from the present average annual growth of 70 board feet per acre to 300 board feet through planting and management. In the years to come this growth will permit an annual cut of 50 million board feet in Lafayette County where in 1958 the cut was only 7.7 million feet—mostly

low-grade hardwoods. This permanent addition to the future economic resources of the county is a shining goal of this all-out forestry effort.

But forestry has short-time benefits, too. Depending as it does almost entirely on agriculture, much of the economy of Lafayette County used to go into semi-hibernation during the winter months. Landowners had to "furnish" their tenants, and lines of waiting men stood at the County Welfare office and the surplus commodity building. In recent years, however, the booming forestry program has helped solve this problem of unemployment. During the winter of 1958-59 over 300 men had employment on planting or timber stand improvement during the period from December to March. Normally there is little or no "outside" work during these months. The forestry payroll was over \$60,000 with additional ACP payments totaling \$20,000. Local merchants will testify that the benefits of a circulating \$80,000 are practically immediate.

Lafayette County landowners also recognize the benefits in the Conservation Reserve program. Hillside fields of low productivity have been removed from cultivation and

planted with pine trees or grass. Today there are 526 acres on 60 farms on which the Government will pay an annual total rental of \$5,776 for the next ten years.

The success of forestry in Lafayette County has a special significance today. Community and forestry leaders throughout the country are searching for new ways and means to improve conditions on the forest lands owned by 4.5 million small landowners. The Lafayette County story shows that where there are adequate program facilities and a willingness to co-operate a great deal of progress can be made. There is no easy road to successful forestry on farm woodlots in Mississippi. Dipping vats, hybrid corn, and cotton poisoning for boll weevil control were accepted grudgingly only after years of hard work by agricultural leaders. In advertising language, forestry is a "hard sell" product. However, the forestry progress in Lafayette County under the bleakest of conditions should give new hope elsewhere provided that forestry and agricultural leaders co-ordinate their efforts in an all-out attack on the problem of idle, oftentimes deteriorated and unprofitable, unstocked forest land.

The Wooden "O"

(From page 13)

and must also supply other versatility when called upon to do so.

The solid stages of earth or stone used by outdoor amphitheatres and tented circuses have little adaptability, yet can support a great deal of weight. The wooden stage in an enclosed building must also do this, and from time to time must be cut for entrances (as a trap door cut through the stage for *Faust*) or must make a rhythmic contribution (as a sounding board for tap dancers). The Metropolitan Opera House stage, for example, has been trod upon by elephants and horses and has been cut for traps, yet it has also served as a smooth surface for ballet.

The damage that can be done to a stage is often unbelievable; unless one works closely with the theatre, one does not realize the punishment that a stage floor has to take. Almost all legitimate theatres use white or yellow pine boards for stage flooring, and often use a canvas ground-cloth to protect the finish from casters, dropped tools, heavy furniture, animals, etc. The wood must be soft enough to be able to use stagescrews for the quick attachment of the supporting members of a

scenery flat to the stage. Presentation houses, of which Radio City Music Hall is perhaps the classic example, use a hardwood flooring, such as maple. These theatres seldom use scenery attached to the floor. Instead it is "flown" with the use of ropes or wires, and set in position on the stage without screws or nails. This naturally protects the finish from damage; but although these pieces are constructed in such a way as to be able to stand up by themselves, they cannot take difficult treatment from the performers. It is most disconcerting to watch an actor slam a door on stage only to note the impact's vibration through the rest of the set, shaking the entire frame. Wooden reinforcement is mandatory if the piece is to be utilized by a performer; as mere decoration, however, it presents no such problem.

Oddly enough, it is when wood appears as itself that it does present problems. But being a versatile performer, it and its by-products solve them. For example, the settings for two modern plays call for trees large enough to support an actor. Paul Osborn's *On Borrowed Time* has the character Mr. Brink confined to the

branches of a tree where he must remain for a considerable length of time. Naturally, this tree has to be strong. An actual tree is impossible to use because of its weight and the difficulty in handling it. Greer Johnson and Charles Sebree's fantasy, *Mrs. Patterson*, presents a similar problem, with the additional complication of having one of its characters confined to the inside of the tree trunk. The solutions? Rebuild a tree that is lightweight with detachable parts and strong enough to support human weight. A wooden frame reinforced with wire and covered with papier-mâché painted to resemble bark becomes a tree trunk; its hollow center is large enough to permit a performer to be inside, entering from a trap door in the stage or from the back section that is not in view of the audience. Natural wooden limbs can be found (or made); large enough and sufficiently reinforced they can support a performer. The various sections of the man-made tree can be disassembled for easy and rapid handling.

Production budgets for New York shows have skyrocketed within the past twenty years. Musicals that

were presented in the '30's for a total capitalization of \$100,000 (or less) now cost four times that amount (or more). Although the total expenditure for wood is seldom more than three per cent of a show's total cost, this can be quite a sum for the supplier of multiple set musicals. Broadway union regulations do not permit the re-use of sets in other productions, so they must be made from

Reading About Resources

(From page 64)

no single best way to write a book, the two extremes at hand should settle the question. On my desk beside Blumenstock's massive study is a smaller, lighter book—much lighter in every way—that in a wholly different fashion deserves equal thanks, along with *The Ocean of Air*, for what it gives us. This second volume is Pieter W. Fosburgh's *The Natural Thing: The Land and Its Citizens* (Macmillan Co., 1959. \$4.75. 255 pp.).

The awkward, uninspired title should be no reflection upon this immensely entertaining collection of "outdoor" essays by one of the most gifted writers who ever fell in love with the natural world.

For ten years Pieter Fosburgh edited *The New York State Conservationist*. The book includes not only pieces written for that noted journal, but new things too. Some of them are amusing, some hilariously funny, and others deadly serious. Fosburgh is at his best in reporting on the natural world from the human viewpoint, unhampered by preconceptions or pretensions. He is less than his best in deeper water.

Here, for example, is his definition of conservation as "a science and a philosophy, combined as a dynamic working force to solve problems arising from man's relationship to his physical environment." Since conservation is neither a science nor a philosophy, since it is many things in addition to being a force, and since man's relationship to his environment is many things in addition to conservation, I would judge this one of the fuzziest, most imprecise definitions of conservation to be found in print.

But the man knows conservation, whether or not he can define it—make no mistake of that. His pieces comprising *The Natural Thing*, while extraordinarily attractive, are built of solid facts that need yield to no expert. Anyone who would not enjoy this book has no business try-

ing to read in the first place. Any-one who would not profit from it is beyond help.

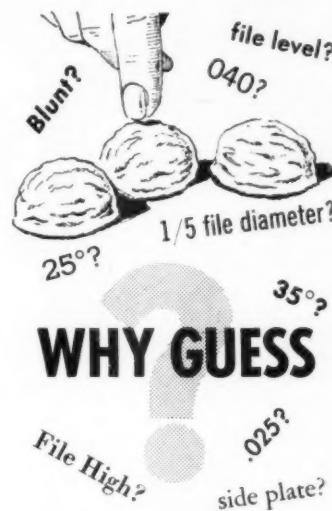
Two pieces, "The Blackwell Place" and "A Place in the Country," are real studies in depth of the problems of rural ownership today, especially when the land is marginal or too small in size, or when the owner is more or less absentee. The net effect of these essays is to discourage us from taking the plunge when we find a farm for sale "cheap." Beside that, they give insights that should spark a new respect for those who are able to reclaim lost land, and do so profitably.

There is everywhere evidence in this book of the author's understanding of forestry problems and the author's conviction of the importance of seeing that these problems are solved promptly and properly. Indeed, Fosburgh's attitude toward forest management is so sensible, being seasoned by both learning and experience, that some of his pages should be memorized by the profession.

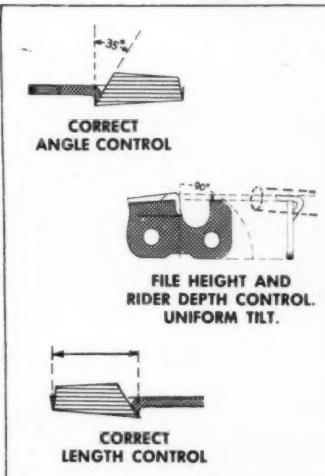
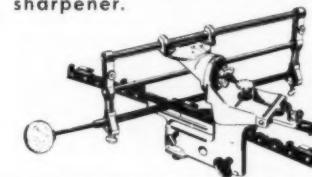
The author's earnest thoughts on this and other points should never, however, be allowed to obscure his great good humor, his wit, his large humanity. There is no doubt the man is a big person, and this is enough to make even the best of books better yet.

And in one final word, let us take quick note of a new, off-beat volume that has just appeared: *IGY: Year of Discovery* by Sidney Chapman (Univ. of Michigan Press, 1959. \$4.95. 115 pp.). Here is a thin, beautiful book that combines good text and pictures to give a brief report on the International Geophysical Year. It offers an interesting, though expensive, evening's reading.

For that matter, there seems to be no end to the books of quality that are being published. The problem is how to find the evenings for reading. If publishers could only give us ten evenings in each week, we might all be better customers.



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est fire law with cash. Folks must follow through."

Smokey Bear citations for outstanding service to Kentucky's fire program then were given to 28 people, including former residents R. E. McArdle and K. B. Pomeroy. Two circuit judges, five newspaper men, three radio station managers, two Boy Scouts, a women's club, and several landowners.

Pertinent comments during the conference included those by: **T. O. Helm**, Conference Chairman and President of the Bluegrass Cooperage Co., "The aims and objectives of this conference are to inform, impress, and arouse the general public to the seriousness of Kentucky's forest fire problems, and to stimulate immediate action at all levels to eradicate this menace in the shortest possible time."

C. D. Dosker, President, Gamble Brothers, "We are not talking about a problem of government or of commerce and industry. It is a *people's problem*. We can solve it through the education and re-education of every citizen."

Gene L. Butcher, Director, Kentucky Division of Forestry, "Laws alone cannot correct social ills. Public sentiment must support those laws."

Mrs. Ed Jackson, Conservation Chairman, Kentucky Federation of Women's Clubs, "It is a sacred duty, civic responsibility and personal obligation of every citizen to take militant action in the prevention of forest fires."

Dr. Stanley Wall, Dean, University of Kentucky, "... protection programs are ineffective unless people believe in them."

The Hon. J. B. Johnson, Circuit Judge, "Freedom would be hollow indeed if man did not have the right to acquire and protect property."

Freeman Wallace, Hart County Agent, "The farmers of our county have organized an association to prevent fires, plant trees, and market timber. We sold \$20,000 worth last year..."

Roy Pennington, Frankfort, Kentucky, "Where we do go from here?"

Mrs. H. N. Davis, Midway, "Forests are a wonderful heritage..."

Mrs. J. Kidwell Grannis, Past President, Kentucky Federation of Women's clubs, "We women have worked diligently for state-wide fire protection."

Kentucky Fire Conference

(From page 25)

William Johnstone, Kentucky Bankers Association, "... the General Committee of this conference should continue to function..."

Kenneth B. Pomeroy, chief forester, The American Forestry Association, presented the following statement to the group:

"Protection of all forest land in Kentucky is possible as a result of enabling legislation passed last year. But it has not yet been achieved."

"The visible obstacle to faster progress is insufficient money in the general fund. Actually the real reason is lack of sufficient public interest."

"Public apathy can be dispelled if people have a better understanding of the economic and social values of forests. As one AFA life member put it during a discussion of small landowner problems, the pocket nerve does not jingle with sufficient intensity. This sage observation has its counterpart in Dale Carnegie's *How to Win Friends and Influence People*: Show the other person how he can benefit."

"Forestry, by nature a long-term investment, is unattractive when woodlands suffer from repeated burning. But a prospect of immediate rewards may be received cordially. Perhaps this is the time to concentrate upon recreation and clean streams. Both are enhanced by protection of the watersheds."

"Kentucky's recreational potential is tremendous, yet relatively untapped. Centrally located, within easy access of millions of people, the state's natural scenic beauty and mild climate can attract many vacationing Americans. Already a multi-billion dollar industry throughout the nation, outdoor recreation could give an immediate lift to Kentucky's forest economy."

"Kentucky's greatest resource could be clean, potable water in quantity. Water is a basic necessity of industry. New industries mean more jobs; they trigger a chain reaction in service industries; together they create larger payrolls and underwrite a better way of life. The result—pocket money and a broader tax base for each community."

"These rewards can flow from Kentucky forests if they are protected from fire. But we must work to win them: educate our neighbors, arouse their desire, raise the money needed to implement a sound fire protection program."

"The task is difficult yet it can be achieved through determined co-operative effort as indicated in this story about the small Methodist community destroyed by a Labor Day tornado.

"When these 200 unfortunate souls reached the Pearly Gates, they encountered a traffic jam and couldn't get in.

'I'm sorry,' St. Peter said, 'all these Labor Day fatalities you know. I'll have to put you on stand-by down below.'

"Dismayed, but undaunted, the Methodists determined to make the best of their destiny. Only a few days elapsed before Satan phoned St. Peter in great agitation.

'You must get these Methodists out of here right now.'

'What's the trouble?'

"They have organized a fund raising campaign and they're within \$25 of air conditioning the whole place."

"Fire proofing Kentucky is not that difficult. Actually there are only three limitations: public interest, legislative authority, and money. Public interest already has been aroused sufficiently to clear away the legal restrictions.

"Now raise the money. Discuss the situation with your friends. Ask each citizen to do his share. See to it that county and state officials are

fully informed. Make fire protection a part of your daily lives, and Kentucky's forests will bloom again as they did when Daniel Boone first gazed upon them."

Another speaker to address the meeting was Frank Heyward, Jr., director of public relations, Gaylord Container Division, Crown-Zellerbach Corporation.

"Public apathy over fire protection is similar to the public reaction to polio vaccine," Heyward said. "We know it is good for us, yet millions of people fail to do anything about it.

"To awaken and arouse the public into a state of active appreciation, the following remedy is suggested:

"A Forest Recognition Week, proclaimed by the governor.

Create a Co-ordinating and Planning Committee with expert public relations counsel.

Arrange a systematic speaking program to cover all groups in the state throughout Forest Recognition Week.

Secure state-wide press, radio and T.V. coverage.

Prepare editorials and news items. Provide material for the clergy. Develop school programs. Enlist business leaders. Conduct guided tours. "Kentucky has a marvelous commodity to sell. Now let's get at it."

RECOMMENDATIONS ADOPTED BY KENTUCKY FIRE CONFERENCE

Legislation

Appropriate sufficient funds to extend fire protection to all counties in the state by January 1, 1964.

Authorize the Governor to close the forests when extreme fire hazard exists.

Education

Urge prospective teachers to study conservation of natural resources.

Place more emphasis on youth programs.

Encourage research to determine why some people set fires deliberately.

Employ a Supervisor of Conservation Education in the Department of Public Instruction.

Public Relations

Re-activate the Information and Education section of the Division of Forestry.

Organize local forestry improvement associations throughout the state.

Provide incentive awards for outstanding achievements.

Law Enforcement

Prepare a digest of fire laws and instruct all county officials. Courts should include fire prevention in their charges to jurors and citizens.

Request special investigation of "problem" fires.

Encourage Kentucky law schools to prepare a publication on fire trespass, tort, investigation, evidence, etc.

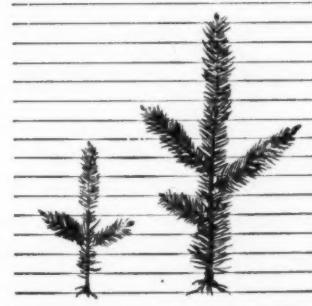
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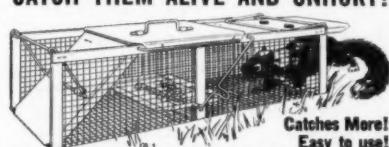


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of its capacity. Ready-mix concrete plants run at a third to half capacity for six months, shut down the rest of the year. The only dairy of any size, at Palmer, collects around 35,000 gallons of milk a day. A metropolitan dairy would process this in an hour. The Alaska plant could handle several times as much with the same investment and overhead. Yet it has a surplus in some months. Canned and reconstituted milk is cheaper.

Tons of home-grown potatoes have rotted for lack of buyers, and potatoes are shipped in. Alaska beef is cheaper than imported beef but it is grass fed, not aged (no slaughterhouse to hang it in) and unable to compete with the prime, cornfed beef shipped in. Corn will not grow in Alaska. About the time ranchers have to slaughter the steers they do not want to winter, the hunting season opens. Moose and caribou are plentiful, and taste about as good as Alaska beef.

Besides the dollars that go "outside" for supplies, hundreds of thousands depart when construction and mine workers leave for the winter. Salmon packers bring in a lot of help. In addition to the wages taken out, more than \$1,000,000 annually is paid out of Alaska's employment security fund through offices in the older states. This fund, incidentally, has paid out \$19 million more than it took in since 1950 because organized labor blocked remedial action, and it owes the United States fund \$8,265,000. An \$11 million surplus has been turned into an \$8 million deficit. Employers will eventually have to make up the deficit when the legislature faces the problem, which it did not do in its first session.

The escape of so much money has deprived Alaska of capital needed for development. As of June 30, 1959, the 18 banks in the state registered total deposits of nearly \$183,000,000, an increase of about \$14,000,000 over the preceding June 30.

Fish and game, along with scenery, afford the best opportunity for Alaska to get dollars that it can keep. Sportsmen and tourists spent an estimated \$27,000,000 in 1957, \$48,000,000 in 1958, substantially more in 1959, aside from transportation. To cash in fully, Alaska needs more accommodations. Some new

Alaska

(From page 16)

hotels and motels have been built, but an operation apt to be idle more than half the year is not an attractive investment.

Fish and game are the most valuable resources for other reasons. A third of Alaska would not be habitable without wild meat being available. John L. Buckley, leader of a research project, reported that 30,000 people lived on fish and wild animals.

More people depend on fishing for all or part of their livelihood than on anything else, even though salmon runs have shrunk. The 1959 pack was only 2.44 million cases, a 17 per cent decline from 1958. The pack may never again reach the 1936 peak of 8.3 million cases, but the new state's shores swarm with other fish which will become increasingly important. Halibut and herring now are lesser fisheries. Crab and shrimp are coming along. But ground fish now are too far from the market and are more apt to be exploited by the government-subsidized Russian and Japanese fishing operations.

Agriculture affords another opportunity for keeping dollars at home. About 90 per cent of the food is imported. Dr. Allen H. Mick, director of the Alaska experiment station, estimates that 50 per cent of it could be produced locally—more, probably, as plants adapted to the climate are developed.

Most farms, established under the 160-acre homestead limitation, are too small. Most settlers have lacked the skill and finances for commercial farming. A few aggressive operators have consolidated acreage, and in that direction lies the future of Alaskan farming. And the more rapidly it proceeds the tougher it will make homestead farming. Any sudden expansion along this line would result in surpluses.

No role can be predicted for Alaskan agriculture in the national picture. Severe restrictions are imposed by soil and climate. Surveys have turned up only about 800,000 acres of cultivatable land that is accessible or may become so in the foreseeable future. Two or three counties in any midwestern state will total that much. Dane county, Wisconsin, has 400,000.

The cultivatable soil is chiefly an immature brown forest soil, predom-

inantly mineral, which will not grow much without fertilization right from the start. It is fine and subject to erosion. The principal farming areas, Matanuska and Tanana valleys, have annual precipitation, respectively, of about 15 and 12 inches, most of it in the harvest season. Crops thrive in spring and fall on frost moisture, which is retained by compacting the soil along with cultivation. The growing season is short, but long daylight matures plants rapidly—so rapidly that some vegetables "bolt" if planted too early and grow mostly stem.

Important things that cannot be grown are alfalfa, red and sweet clover, soybeans, and corn, which are needed in dairy and meat production, and tree fruits.

Under these conditions, a half-century of efforts to establish agriculture has resulted in less than 22,000 acres which might be called cropland, of which about half is usually idle or seeded to grass. About 350 farms are classified as commercial, and perhaps twice as many are being developed. An idea of the status of farming may be gained from the fact that the Matanuska Valley Co-operative has 200 farms; the manager told the writer that a dozen of them accounted for more than 80 per cent of the co-op's commercial produce.

There is a lot of land suitable for grazing. If problems could be overcome, Alaska could produce more meat than it needs, and eventually it probably will. Some 60 leases from the Bureau of Land Management, embracing 1,840,000 acres, are stocked with 2,300 cattle and horses and 12,000 sheep and goats. They could support more than 200,000 head.

Homesteading is a long, hard pull. A minimum of \$15,000 capital was advised by farmers interviewed. Dr. Mick said that a majority of the homesteads take in less than \$200 a year from what they grow. The Homer area on the Kenai peninsula has had homesteading for 40 years and in that time 60 per cent of all entries have been given up. A 1955 survey showed that only 10 per cent of the homesteaded land was being farmed or prepared for farming.

A homesteader needs a job to carry him, and Alaska has a chronic unemployment problem. Newcomers do not have much chance unless they have needed technical skills. A union officer told the writer: "Tell 'em to stay away; we don't want any more men looking for work."

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Forest industries promise to make a substantial contribution to the development of southeastern Alaska in the next couple of decades, and eventually the interior forests should become commercially important. In the long run, the new state's greatest industrial growth could result from utilization of its timber.

Only the southeastern coastal forest now has commercial value, and exploitation is entirely contingent on pulp operations. The Forest Service insists on clear cutting and 80 to 90 per cent of the wood is good only for pulping. The Tongass National Forest is very old, rotting and damaged by insects. Foresters say that it should have been cut 300 years ago. Clear cutting is necessary for reproduction; if the ground is not warmed by the sun, it goes to brush.

The timber here is mainly hemlock with occasional valleys of spruce. A few sawmills have operated by high-grading isolated stands of spruce, which are nearly gone. What is left runs 80 to 90 per cent low grade timber, including, in some places, as much as 10 per cent western red cedar, which has no market. There is no market either for number two or number three saw logs or poles.

To get out the number one saw logs and peeler, a logger must have a market for the pulpwood.

Prospects for rapid development of a pulp industry were brighter a few years ago than now. Alaska appeared to offer a great bargain in the 1940's when long-term supplies at low stumpage rates were offered by the Forest Service, but high labor costs in mill and woods have made the cost of pulp comparable with costs elsewhere.

As the result of a deal negotiated by Frank B. Heintzelman when he was a regional forester, the Ketchikan Pulp Company went into production at Ketchikan in 1954. Arthur W. Greeley, Heintzelman's successor, negotiated three more contracts. Under one of them a mill at Sitka will be ready in January for operation by the Alaska Lumber & Pulp Company, a subsidiary of several Japanese plants, which will take the entire output.

Meanwhile, the pulp industry overbuilt. The Ketchikan mill has run at less than capacity for two years. No construction has been started on two contracts. The Pacific Northern Timber Company has a 1962 deadline for a pulp operation at Wrangell; the Georgia-Pa-

cific Alaska Company has a 1961 deadline for one at Juneau.

Sawmills are marginal operations. Wrangell Mills, Inc., half owned by the Sitka Japanese interests, shut down all summer in 1958. A sawmill at Metlakatla Island changed hands but kept going. The biggest operation is the Ketchikan Lumber Company. The Juneau Plywood Company quit in 1955.

P. D. Hanson, regional forester, has worked with Georgia-Pacific to get an overall operation started at Juneau—lumber and plywood as well as pulp. Senator Gruening in 1959 proposed a federal hydro-electric project to provide cheap power, if Georgia-Pacific would contract for it.

The Ketchikan mill employs about 700 men in mill and woods. Its coming increased the town's population by about 3,000.

Greeley estimated that the Tongass National Forest, southernmost in Alaska, could support perhaps five mills of the Ketchikan size and that in time the Chugach National Forest to the north and west might support one mill. The two forests follow the steep coast all the way to Afognak island and contain about 8.5 million acres of timber, little more than half of it suitable for commercial operations by present standards.

The Ketchikan mill's pulpwood receipts in 1957 totaled about 20 per cent of the receipts of all Wisconsin mills, indicating a potential industry for Alaska a little larger than Wisconsin's. It would not be comparable in employment or value of product because Alaska operations are not likely to go beyond pulping under existing labor conditions.

The interior forests are chiefly useful as a source of wood for isolated communities and ventures, such as mines. They represent cellulose for the future. The problem is to protect them from fire. The interior has about 125 million acres of forest. These lands, and the brush, grass, and tundra associated with them, have been about 80 per cent burned over in the last 70 years. New growth has sprung up, but in the subarctic it takes trees a century or more to reach full maturity.

Burns have destroyed vast areas of caribou and reindeer range. The lichen these animals eat may take 30 to 40 years to return. On slopes left bare, thawed soil slides over permafrost underneath. Loss of cover has been responsible for areas of drifting sands in the Kobuk and Tanana river valleys.

Mining is the weakest of the new state's industries, and its prospects for development are the most remote.

Sand and gravel were the most valuable product of "mining" until defense construction declined with completion of DEW and White Alice lines. Coal moved to the top of the list in 1958, with gold second.

Gold mining, at the fixed price of \$35 a ton, is marginal under Alaskan conditions. Dredges account for 80 per cent of the production and the U. S. Smelting, Refining and Mining Company, which operates half of the dredges, is winding up its operations and expects to be out of Alaska by 1964.

Silver does not pay except as a by-product. Tin is delivered in the United States from Malaya and Bolivia and chromite from Turkey at prices Alaskan mines cannot meet. Lead and zinc producers in the western states can produce cheaper and closer to markets than Alaskan mines, and import quotas had to be set up in 1958 to keep them going.

Alaska's iron cannot compete with taconite in the middle west, which is closer to the steel mills. The best known deposits of Alaskan iron are magnetite, at Keukwan, with too much titanium for blast furnaces. Development depends on a west coast steel industry and cheap hydroelectric power for electric smelting. Six companies have explored or experimented in iron fields in recent years.

Coal is largely lignite and sub-bituminous, expensive to mine because seams often are but a few feet thick with a lot of useless material to be removed. A Japanese party came looking for coking coal in 1958. There are deposits of such quality in the gulf region, along the Bering River, but exploitation would be handicapped by intense structural deformation. A Virginia company which ships coal to Japan has working agreements covering about 25,000 acres in this region. Development cost estimates range up to \$100 million.

Excluding sand and gravel quarry operations, 197 mines operated in 1958 and employed 1,421 men an average of 170 days. Both employees and days declined from 1957. The products were valued at \$15.5 million, all but about \$2 million in coal and gold. Two mercury mines and one platinum mine operated in 1958 and 1959. The only other production was \$22,000 of silver, \$3,000 of copper and less than \$1,000 of lead.

Oil is not a new discovery in Alas-

ka. Explorations have been going on for half a century. There was some production from shallow wells until a refinery at Katalla, on the Gulf of Alaska, burned in 1933. Sporadic drilling continued. As of June 30, 1950, there were only nine leases in all of Alaska, covering 19,000 acres. Navy oil explorations begun on the Arctic slope in the late 1940's struck oil and gas. After this operation ceased in 1952, some of the civilians engaged in it filed on land in the Koyukuk basin, south of the Brooks range. This set off the first rush.

Nearly 50 million acres now are under lease or filed on. A strike by the Richfield Oil Company in 1957 on Kenai peninsula started the big boom. Several large companies have had air-borne geophysical crews exploring and ground crews drilling ever since. The first oil to be produced in Alaska since 1933 was shipped in October, 1958, from the Richfield-Standard Swanson River field on Kenai to be tested at a Puget Sound refinery.

What this oil boom will mean to Alaska's economy is problematical. Morgan J. Davis, president of the Humble Oil Company, warned the Greater Anchorage Chamber of Commerce in 1958 that the industry had been operating off the Louisiana coast 11 years, with a high ratio of successful wells, and the total production was only about 100,000 barrels a day.

The Anchorage chamber hired James W. Dalton, a mining engineer

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formerly associated with the Alaska Development Board, to make a survey; his report was published in August, 1958. He cautiously estimated that a 10,000 barrel (daily) refinery would be operating in Alaska by 1967.

Dalton estimates that the industry will spend at least \$255 million in Alaska in the next decade and employ at least 1,600 persons. Basing his guess on what happened at Williston, North Dakota, after oil was found there in 1950, he predicted 10-year gains for Alaska of 4,000 to 8,000 in population, \$15 to \$20 million in retail sales and \$7 to \$12 million in bank deposits.

Hydroelectric development is an enigma. Engineers lick their chops when they look over the dam sites. They dream of a reservoir on the Yukon River that would be larger than Lake Erie and produce twice as much power as Grand Coulee dam, which has the largest generating capacity in the United States.

But they turn for practical results to smaller streams, and lakes left up in the mountains by glaciers, which can supply power for scattered communities and mines.

The Army Engineers have listed 165 power sites which they estimate could produce 17.8 million kilowatts, about three-quarters as much

as all of the present installed generating capacity in the United States. Only 14 of these sites could produce as much as 100,000 kilowatts, and the 14 account for 83 per cent of the potential power. The existence of a multitude of small power sites is a good thing for Alaska. Its isolated communities could not be served by large, central plants or use their capacity.

The largest hydro plant, at Eklutna between Anchorage and Palmer, has 34,000 kilowatts capacity. The area has outgrown this plant, finished in 1954 by the Reclamation Bureau. The bureau has in mind a 475,000 kilowatt plant on the Susitna River which could supply Anchorage and Fairbanks for years to come. The Army Corps wants to build a 50,000 kilowatt plant at a perched lake on Kenai peninsula.

These are the only serious proposals at present, and neither is likely to be started for several years or completed in less than a decade.

The Yukon has three sites which could surpass Grand Coulee, but their potentials would be greatly reduced by construction at a southeastern site which has much better prospects for development. It calls for diversion of the Yukon's headwaters in Canada through mountain tunnels to an Alaskan coastal valley. Some two million kilowatts of really cheap power (two mills per kWh or less) could be produced and the aluminum industry could use it.

The Aluminum Company of America and Frobisher, Ltd., of Canada have made passes at this power, but negotiations between the two governments, looking to joint use, have been at a standstill for several years.

Congress appropriated funds in 1949 for a study of Alaska's power possibilities by the Army Engineers, which is nearly complete. Senator Gruening got \$50,000 in 1959 for a further Yukon survey.

Harold L. Moats, chief of the Corps' civil works section in Anchorage, sees a possibility that Asian markets might develop industry at ice-free tidewater ports in the next couple of decades and provide a market for big power.

"I'm an incurable optimist," he said. "I think we'll see something up here in our lifetime. In 1929, only a few dared to think there would be a dam on the Columbia, and in 1932 the first one was started."

Alaska needs incurable optimists, with the resources and ability to overcome hard realities.

The Colors Winter Wears

(From page 17)

sees them on moonlit winter nights or when he drives along the Sandy River Road and his car lights flash on them. White balls of milkweed furze are carried over winter's empty fields like miniature clouds by the strong winds.

Then, there is ice over the zigzagging streams in the dark valleys, over the ponds, small lakes, and rivers. Although this ice is never as white as new-fallen snow, here it is very white when contrasted to the dark, empty, barren land on either side. And when the sun shines, these crooked ribbons of ice that follow the streams are bright winding paths of light that make one squint his eyes when he tries to follow them. There is never a time when a man walks out in this winter land that he cannot see white. Even the barren branches of our silver maples, which grow wild here, are white iron-tracery against dark winter skies. Winter white is over the landscape and it is in the cloudscape. This winter white, which is far more than spring and summer's white blossoms and skies, adds a great beauty to our winter world.

The complaint I hear from most people is that winter takes all the green from the earth. They who complain should know that winter retains a great portion of green. For instance, in any winter land where there are firs, pines, and cedars, we get deep-dark and lighter greens. In this land there are pines on almost every hill. These green pinetops sway with the bright lyrical winter winds when the earth is fast asleep under a blanket of snow, while above us the cloudscapes, as white as snow, move the way the winds are blowing. One can now see earth-clouds of trembling green. No one can ever tell me winter is not filled with green. Our Sandy River in winter is a turbulent, restless, ribbon of green water.

There are also acres of wild green honeysuckle scattered over this land. The frosts come and stiffen the green honeysuckle leaves, and the icy winds tear at them. Snows and sleet cover them for weeks, but they still remained securely fastened to their little vines. They will remain bright and green under the weak winter suns. The greatest enemies of the wild honeysuckle's green leaves are not snow and ice but flocks of sheep and herds of cattle and deer that

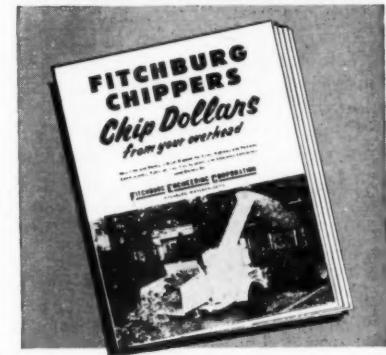
like to devour these patches of green in winter.

All one has to do is look up into dead trees to find the green mistletoe. This parasitic plant grows from the dead trees or dead branches of old oaks, apple trees, sweetgums, and blackgums. In this area, just before Christmas, mistletoe is shot down with guns. Our gathering mistletoe for Christmas goes back to the old druid customs: We follow their practice of kissing under the mistletoe. On the dead or dying tree where mistletoe flourishes, men are afraid to climb. Their shooting this green parasitic plant from the trees is becoming another winter custom here.

Another winter green that is gathered by hundreds of our country youths is the mountain tea which grows close against the rocky hilltops, the place where mountain tea survives the best. Youths in this winter land have found the mountain tea, chewed its green leaves and eaten its red berries. A few of its leaves actually turn red while it is alive and growing.

One of the rare green trees which people in this area have had for Christmas trees and decorations in the past is the holly bush. Holly would grow excessively here if it were left alone. Forty miles from here it still grows in abundance.

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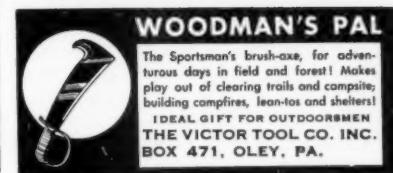


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Several people do a lucrative business selling the green holly bushes and wreaths filled with red berries to the stores and to people in the cities to be used for Christmas trees and decorations. The green holly trees, which grow very slowly, are being pushed deeper and deeper into the mountains each year.

One of our bright winter greens that will never disappear is the woodmoss. I can see a green carpet of moss covering the slope of the hill from my window as I write. This woodmoss is the greenest green of winter. It is a plush carpet into which one sinks to the ankles when he walks. Where the land is poor on the wooded hills there are green carpets of moss. Everywhere, in ravines and around rock cliffs, are patches of lively winter-green bracken, sword fern, lacefern and delicate maiden's hair fern. If one will only look for green, it is all over these winter hills. One cannot escape seeing it on this winter land unless he fails to use his eyes.

Here are there are tiny bits of red that add their decorative trimmings to all of winter's colors. There are red berries on the holly bushes. And there are small red berries on many of the dogwoods and on the mountain tea. But wherever one finds a patch of red sumacs, and they grow everywhere here—in ravines, on slopes, beside the roads—there are cones of ripe red berries which look redder still against a background of leafless trees, of brown and dark. The sumac berries are not well-liked by birds and squirrels, but they are held in reserve for a time when other foods are hard to find. Then these berries are eaten. They are only eaten when we have an unusually hard winter. But they remain upon their slick, leafless bushes like giant combs on the heads of tall roosters.

However, in a land where there is not much red in any season but autumn, this color is scarce in winter. This might be the reason the flocks of red birds stay over the winter long. They are very happy about their bright red feathers as they go splitting the winter winds with their strong wings. And we are very happy that these birds choose to remain. Also, in our search for red colors in winter, we often find red sandstones on our slopes that we have never noticed before.

We often see red skies on winter days. We have seen the entire sky a mass of floating red clouds which makes a wonderful contrast when the earth is sunless and dark below. One seldom sees a red sky over a snow-

covered earth. But winter sunsets on the short winter days, when the earth is covered with snow, are the finest of any season. There cannot be any complaint from anyone that winter is totally without this color. For the sun in its setting often drags red clouds over its trail as it goes down beyond these dark hills on winter evenings. We see red horizons more often in the early mornings and the late evenings.

One might not think blue would be a winter color. But where is there one who has never walked on a clear December day, looked up through the barren branches of the winter trees to see a cold, blue, winter sky with branches of trees silhouetted against it? Anyone who has will tell you that a cold winter sky is as blue as a robin's egg. Anyone who observes the winter day knows the skies are bluer in winter and have more depth than in any other season.

Often I have walked out to stand under the leafless persimmon grove where frozen persimmons were still clinging to the barren boughs. When I picked up a stone or a stick to throw to knock loose some persimmons, I looked up toward the blue cold December and January skies to see these leafless, crooked, ugly branches with fruit still clinging etched in the high blue of a winter sky. It thrilled me to think that the cold season, winter, could hold a delicious fruit up against the winter blue.

The blue morning skies are the same color of deep holes of water in the streams when there isn't any ice. Deep water is as blue in cold, clear, clean winter as the high endless skies are blue. And the sawbriar berries are a deep blue like that of deep water and endless skies. The greenbriar berries are a light blue, almost the color of blue skies before they turn to gray. There is never a winter day when the sun shines that this world is not roofed with blue. There is never a night when the stars and moon are shining that the cold winter night skies are not a dark endless blue.

The rarest of all colors in winter is yellow. One sees it sometimes in last years' leaves when the snow is off and the sun has dried the carpet of leaves which earth uses for a blanket to cover itself while it sleeps. Then, too, there is often a fodder blade which the wind has blown from a cornfield and lodged in a tree. The crabgrass on old fields of corn and wheat stubbles on fallow and empty fields are light yellow.

And I have seen rocks as yellow as

ripe pumpkins in the winter sunlight upon these hills. Unfortunately, where erosion has cut down into the clay, there is yellow dirt. This is a winter yellow that is deplorable to see. Where one sees this, he thinks this part of the earth is worthless. And where the ground is too poor to grow its own covercrop of weeds, or where a forest fire has cleaned these cover crops, there are small yellow patches over the earth. Stand on one of these high hills and look down if you have any doubts! And if you have doubts about all of America, ride in a plane in winter and look down over the earth. You will see that yellow is still a winter color where the earth is scarred.

Brightness is definitely a winter attribute. There is more brilliance in the millions of shining particles of frost when the moon is up before daylight than in dew drops on a spring or summer morning. And when the sun rises over the frost on a winter morning there are millions of frost particles glistening bright enough to hurt one's eyes. On moonless nights earth is illuminated by so many millions of bright stars that I have watched rabbits run and play in the light. Perhaps there are more stars in a winter sky than in a summer sky; I have always been able to see twice as many on a clear, frosty winter night. On cold, clear, moonless winter evenings the Milky Way becomes a bright shining island in the azure depths of blue.

We think of winter too often as a sunless season. We associate winter with dark, foreboding, lifeless lands without color and scenic beauty. It is almost impossible to associate brilliance with winter since murky, drab, and dark are the words so familiarly associated with this season. There is more brightness in winter than in any other season. Objects that are bright in all the seasons are brightest in winter.

There are bright trails of ice over the winding streams and rivers in the winter sunlight. When snow covers the land and the sun shines the earth is so bright our eyes must adjust themselves before we can look upon its brightness. Who has ever seen the earth around him in a prettier brightness than in winter when it is snow-covered beneath a full-moon light? Or a lesser brightness when the snow is illuminated by the soft glow of millions of bright stars? Since we have all of this brightness how can winter be so drab, so forlorn and lonely? Winter-bright is one color I'll never be able to see as much as I'd like in my lifetime.

Brown is winter's most prolific color. Most of the winter earth is wrapped in a brown blanket of old leaves. Brown leaves still cling to white oaks that rustle and cry with the wind.

Broomesedge in the old fields, cornstalks, grain-stubble, and many wild grasses are brown-patched over the winter landscapes. Everywhere on empty fields, on bluffs, and under leafless groves of sleeping trees is brown, brown, brown. High hills are often crowned with brown sandstone cliffs silhouetted against a blue winter sky. Even the very earth when it lies exposed is a rich brown color.

Then, with so many lively colors in winter, where is all that drabness that makes people so hostile to this season? Where is all the dark? Hills look dark in winter. Well, winter has that trait too. The barren bodies of leafless black oaks are dark. Often the winter nights are brooding, long and dark, but the stars send shafts of light to splinter this drabness. Because of winter's varieties of colors, I walk and write more in winter than in any season of the year. I find winter so wholesome, so colorful, so great that I hate to see each winter pass! I have only so many of these delightful winters to live and when one comes I live it to the fullest. I am saddened by each one's passing. While winter is here I shall take my long walks, night and day, fill notebooks with thoughts and impressions, and record the brief descriptions of some of the colors it wears.

Forester Apprentices

(From page 27)

new poster brightly printed in red among the notices of sales and studs stands on the gatehouse porch, and reined up to see what it said. It said that a new high school—The Agricultural High School—would open its doors that autumn, five miles up the York Road, out in the open country near Sparks. The courses to be offered, it said, were to be practical and vocational, not academic, not college-preparatory, but distinctly designed to train students for farming, forestry, and country life.

That seemed odd. I had never until then heard the like of it. But of far greater interest to me then was a line of smaller type across the bottom of the poster. It said that because the new school building was still under construction, the fall term would open not in September but in November that year. I rode on homeward thinking that over

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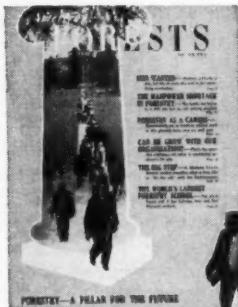
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and was destined to become an agriculturist from that day forth.

That had been my first full summer of such joys. I wanted to prolong it, and regarded without eagerness a scheduled enrollment in the beginners' class of some city or suburban preparatory school that fall.

When I told them at home that I wanted to go to this new high school at Sparks my mother, born in Holland, was horrified and took comfort only in the thought that I would soon repent and transfer to more seemingly classical courses of preparation. Father, who believed in public schools, for boys at least, was quietly pleased with my choice. As for my mother's continental ideas that a trade school for farmers was far beneath our family antecedents, and that a gentleman should never work with his hands, "The woman," he said fondly, "gives herself airs!"

So I enrolled in the entering class at the A.H.S. In November of that year B. H. Crocheron—"that New York dude," the native farmers called him until they grew to know him—came down from Ithaca, New York, under the direct stimulus of Liberty Hyde Bailey, Dean of Agriculture at Cornell, to open school. The first of its kind in all the land—the experimental progenitor of the "Voc-Ag" chain or system of secondary schools, established on a more uniform basis throughout the nation by the Smith-Hughes Act of 1917—this pilot operation was even more aggressively and exclusively vocational in intent. The courses laid down were hard and fast; no electives were permitted.

That could have been deadly, but it wasn't; it was intensely lively and stimulating. That was mainly because this tall, bent Yankee schoolmaster was fired with a Bailey-like conviction, the like of which propelled the Country Life Movement and the beginnings of the Pinchot-Roosevelt Conservation Movement at the time. It was, and is, a belief that farming, forestry, and the natural sciences, properly comprehended, can be considerably more "cultural" in living terms than dead languages and delving into classics of the past. With Bailey and Pinchot alike, the conviction carried over into a philosophy which asserts that if all the aspects of agriculture and silviculture are taught and practiced with a recognition of underlying and enduring inter-relationships—ecology is the word for it now—such pursuits become continuing courses in the humanities, in outdoor terms.

To teach and lead along such lines, this Bertram Hanford Crocheron, then under thirty, was the most vibrant and gifted schoolmaster imaginable. So much so, that within four years it was plain that the boundaries of Maryland could no longer contain "B. H." In 1913 he went the whole way west to become the first Director of Agricultural Extension in California, a far more spacious domain. But a very great teacher was in large part lost to that calling when Crocheron thus became absorbed in the large-scale personalities of administration.

The curriculum he laid down had no strictly classical or cultural subjects at all, in the old sense. To fill us in on the side of books and contemporary literature in general, Crocheron would read to the High School Assembly, opening each school day, from such works as Vachel Lindsay's "The Leaden-Eyed," or from Rudyard Kipling's "The Feet of the Young Man."

That small high school out on the hills of Maryland is rather a big one now. They have taken down the name "Agricultural High School," which was carved in stone over the entrance door. It is simply the Sparks High School now, conveying conventional subjects in more standard ways. But for the first few years of its being that school made our slumberous countryside a place of beauty and adventure and high delight. There other good teachers working with Crocheron in those days—Miss Harlean James, for one, and Miss Hyde, teaching English, and helping us put on not trashy class plays from mail-order catalogs but *The Merchant of Venice*, no less. I played Shylock, and the two-mile walk from the railroad station to our farm passed like magic, with the marching cadences of Shakespeare ringing in my head.

Crocheron laid it down as a working principle that, just as summer projects in surveying and mapping, corn variety tests, double-pedigree breeding plats, and the like were required as a supplement to indoor courses in soils, agronomy, horticulture, animal husbandry, farm management, and accounting, on the boys' home farms, so also must forestry be taught outdoors and in actual practice.

A good many of our fathers' farms had woodlots, but not all of them did; even the most accommodating of fathers, willing enough or more than willing to have their sons practicing elementary genetics and other advanced practices on their

fields and in their herds, would probably not have stood for their sons and teams of their classmates hacking away in the woodlot—thinning the brush and timber, practicing improvement cutting and such other European methods of perpetual yield as Gifford Pinchot and his first foresters were only then beginning to introduce into agricultural practices on American soil. So our homework with trees during open weather was confined to pruning, grafting, budding, and spraying home orchards, of which there are still quite a number around the county.

To train its boys in the first principles and basic practices of forestry, our high school blazed a trail fore-running, quite unknowingly, in the teens of the century, the CCC work camps of the New Deal in the 1930's. Through arrangements with the county commissioners, on the one hand, and a compact with the newborn federal Forest Service on the other, Crocheron and some twenty of his farm boys whose parents did not too greatly fear that their sons, sleeping out of doors at night, would catch their deaths of cold, became custodians of more than a thousand acres of forestland, virtually wilderness, at the far upper end of the county, toward the headwaters of the Gunpowder. Here we threw up a rude camp—a sleeping shack, a study-tent, a tool-shed—and to this camp the Forest Service assigned for a two-week term in the open weather of each year one or more of its keenest rangers as our instructors.

The tract we tended as forest guards and caretakers—clearing foot-trails, getting snags and sharp rocks out of swimming-holes, repairing the one woods-road from the outside world sufficiently to get a horse and wagon in with supplies—was of exceedingly rough terrain almost all over. But one high south slope beyond a ridge back from the river bore second-growth stands of mixed hardwoods on ground of fairly even conformation. Some of this timber was over-ripe; some of the younger trees were tangling, and the undergrowth was getting out of hand in places. It was in this part of the forest that, assigned to quarter-acre units and working in pairs, we worked at timber estimation and improvement cutting.

When it rained, we stripped to the waist and sang at our work, with the pat of the raindrops on our backs. This, mind you, was back when decent people did not peel off summer garb in public. Word ran around that these forest students from Sparks

were running wild up there in the woods, naked. When, within a year or so, that forest camp became our weekend retreat to the wilderness, and our girls asserted their right to share in such delights, the first such mixed camping trip was, I venture to assert, the most thoroughly chaperoned of any social occasion since the founding of Maryland. The girls slept on straw in the shack. The tip-tilted front flaps, which when hoisted on posts served by day as a sort of portico, were lowered and firmly clamped. Those daring virgins on their initial venture into the great outdoors must just about have smothered. We young bucks bedded down at a decorous distance, by the riverbank, on boughs of hemlock.

The "facilities" of our little wilderness area, as recreation specialists call them now, were of the simplest. So were our forms of outdoor sport and pleasure. During the two-weeks' course in forest practices we rose at dawn, took a plunge into an icy, misty pool up the river a way, ate a big breakfast, then worked and studied during a twelve-hour day. After supper we could sit by the fire and sing or join a wading party variously armed, some with "gigs" or spears with barbs, some with pistols, rifles, or shotguns, and all bearing torches. The hunt, proceeding upstream, speared fish, stunned or transfixed into immobility by the glaring torchlight, or blazed away with their variety of firearms at blinking bullfrogs on the riverbanks. Invariably we brought in a mixed bag of edibles for the cooking detail to clean and fry. There was no coolshed; all that was done on low fires banked between stones out in the open, in any weather, and we turned out some remarkable concoctions—frog-legs garnished with wild-strawberry shortcake, for one.

Our Agricultural High School and the accompanying fieldwork on farms and in the forest became quickly famous. Walter Hines Page wrote us up in *The World's Work*. Delegations of educators came from all over to inspect the work and us, the experimental animals; one such delegation came from Japan. For the girls, the foundation courses were four full years of domestic science. For the boys, it was the equivalent of the basic course in college agriculture as then laid down at Cornell: soils, crops, fruit-growing, forestry, dairying, farm engineering, animal husbandry, farm management. For boys and girls, one stiff course each year in straight science: botany, chemistry, biology, physics.

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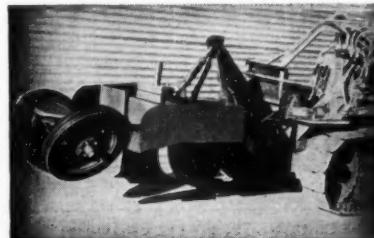
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4. Ask about the law before burning grass, brush, fence rows, or trash.

If this experiment in education proved nothing else it proved to me at least that the young of high school age can take teaching at the undergraduate level in their stride—can take it indeed more eagerly and at a faster rate of growth than most of us do in our twenties.

The strictly vocational nature of the curriculum was such as to forbid our going on to college, even to an agricultural college, without first going elsewhere to some prep school or academy to cram up for a year on French or German and so satisfy entrance requirements. That stuck in the craw a bit, when you came to think it over; the courses at Sparks, allowing no choice of electives, had been deliberately and avowedly planned to anchor its graduates there on home soil. On farms of only a hundred or two hundred acres or so, with electric power, stationary gas engines, and motor vehicles coming in to lessen the need of extra hands on the home place, we lads of the school's first few classes, excited by all that we had learned there of what was going on beyond our ridges and anxious to go forth and learn more, felt distinctly rimmed in, and restless.

As countrymen who seldom saw a movie, the cowboy-and-Injun legend exerted little appeal upon us. As far as we thought about it at all, I guess, we figured that cowboys were simply hired men dressed up in fancy shirts and pants. But forest rangers—that was something. When one of them came over from Washington, in uniform, with big sombrero and well-cut riding togs, to give us a talk about a contemplated short course in forestry, I for one felt that maybe the thing to do was forget about college, go west, take to horse with the U. S. Foresters, and ride the range.

Such dreams and fancies took rather another form when we had as teachers at our forest camp several of the best men of Pinchot's young Forest Service; we worked with them, afoot and with never a uniform, in the woods and along wilderness trails. What with bruised and blistered feet and hands and aching backs which, as we healed and toughened up, were soon no longer painful, our romantic notions about forestry as a calling grew into a deepening admiration and respect.

Among the values to grow out of that forest camp were the friendships we formed with professional foresters when young. At the end of our four-year course, in 1913, ten of the first graduates of the Agricultural High School secretly gathered

around a council fire up at the Devil's Backbone camp one night to set up the Boys Committee for an Oread School of farming and outdoor life, with Crocheron to be Headmaster. Our first problem was to raise a thousand dollars to buy an option on the plant and acreage of Oread, an abandoned private school property on a ridge within sight of our high school. Only one of our committee was of age, but we figured we could take legal option in his name, if we could raise that thousand dollars, and then come out in the open with an organized campaign to take title to the property at around thirty-five thousand dollars. But we needed more than an initial fund to start on; we needed a reputable adult Board of Regents to vouch for the soundness of Crocheron's plan for Oread, and likewise to certify that our juvenile campaign committee was not just a bunch of crazy kids carried away with a wild idea.

To start things off, J. Ellsworth Tippett and I, both still in short trousers, took the train over to Washington. "Tipp," who now is an Assistant Director of Agricultural Extension in California, was a person of impressive dignity and competence even then. When he and I teamed up on this campaign that year, and set out to gain support and raise money, I would pour out our plan and plea with the utmost fervor as Tipp sat by and nodded in a sage and businesslike manner; then in a few crisp words Tipp would sew it up.

[To skip to the close of this adventure, briefly, our Boys' Committee, unassisted by other canvassers, managed in the course of a year to secure pledges running all the way from a dollar to \$2,500, and coming in all to some \$26,000, which wasn't enough. So Crocheron stayed in California as Director of Extension and died there as one of the most eminent of such, in 1948.]

On that first trip to Washington we first called on W. J. Spillman, in the old red-brick administration Building of the U.S.D.A., along with Jay Bonsteel; we made regents of them in no time at all. Next, we looked up some of our forestry instructors, then stationed in Washington. They took us around the crowded and rather dingy central offices of the Forest Service, then in the old Atlantic Building on F Street, and had us meet others of the staff. One was that great gentleman and forest scholar, Herbert Smith. I recall our fascination with the beau-

tifully colored transparent panels of forest and wilderness scenes he had framed at the window, with the sunlight streaming through them. But my most enduring and rewarding memory of that day came of first meeting there at Forest Service headquarters Bristow Adams—one of the homeliest and most engaging men I have ever known, and one of the kindest and most useful.

"B. A.," as he later was called by generations of Cornellians, was a special assistant to the Chief Forester. It was principally through his good offices and Dr. Smith's that we obtained an appointment with Mr. Pinchot and went to see him at his mansion on Scott Circle later the same day.

I never think of Gifford Pinchot, standing straight as a tall pine there in his great living room to greet us youngsters, without gratitude for continuing occasional visits with him personally as long as he lived.

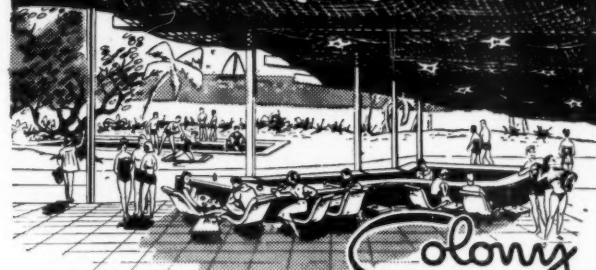
Gifford Pinchot did more than lend his name as one of the board of regents to the letterhead of the proposed Oread School. He wrote letters of introduction for me to friends, including his brother, Amos Pinchot, when awed and inwardly frightened I made my first trip to New York, solo, to ring doorbells and sit by appointment in the anterooms of foundations and the residences of the rich.

Looking back on it all, it was really a fantastic venture for boys of our age to undertake, but I think it did no harm to anyone who had a hand in it, ourselves included. If it had not been for Gifford Pinchot we would never have got the idea off the ground and beyond our secret campfire council, with a paid-up six-months' option on that school property which enabled us to take the campaign out into the open. For on that day of our first interview Pinchot did not merely pledge a donation in the event that we could raise the whole \$35,000: he wrote and handed us his personal check for \$500, to be immediately expended as an expense and travel fund, and bade us go forth and get the campaign going.

Not least of our gains as farmboy forest apprentices was an ability to make ourselves at home outdoors wherever fate led or found us and, more than that, to get up on our own two legs and hike.

(Next Month: FUN IN THE WOODS AND ON THE OPEN ROAD: An Introduction to Outdoor Recreation).

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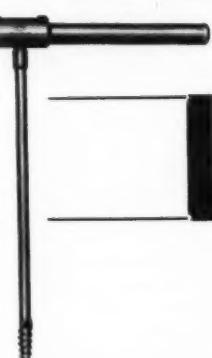
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*Reading
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RESOURCES



By MONROE BUSH

Air, The Eighth Sea

FOR A MILLION years everyone has been interested in the air directly over his own head—interested in the shifting waves of temperature and in the rain and snow that have such impact upon daily life. The chiefs and leaders of men took a broader view, affected as they were by the climate of an entire region. Only a mere handful of the intellectually curious, however, studied the character of the whole atmosphere surrounding earth; and those pioneers who did so had nothing but fragmentary, inaccurate data to examine.

Our ignorance has not concerned us—until now. In the days when the oceans of the world were spoken of romantically as the Seven Seas, men were scarcely less indifferent than most of us remain today toward the eighth and greatest sea of all: the blanket of air that we call atmosphere.

Not until the development of aviation, and fast upon its heels experimentation in rocketry and space travel, were responsible men shaken into realizing how much had to be learned concerning this eighth sea if we were not to be as ham-strung as island savages cowering at the ocean's edge.

At last there is great pressure and progress bursting out of the urgency of our ignorance, and research in the sciences that study the atmosphere is leaping forward to overcome centuries of the barest superstition.

The sum-total of our new knowledge—or at least enough of the total to satisfy all but the most expert professionals—has been packed into a fat, heavy, handsome book by David I. Blumenstock, *The Ocean of Air* (Rutgers University Press, 1959. \$6.75. 457 pp.).

This book is so ambitious as to re-

quire first some word concerning Blumenstock himself. Holding degrees from the University of Chicago and the University of California, he has worked as a climatologist for the U. S. Department of Agriculture and as a meteorologist for the A.A.F. Weather Service and the U. S. Naval Reserve, assigned to Pan American Airways in the Pacific.

He has taught at the California Institute of Technology and at Rutgers. He has prepared for the Air Force a special report on Synoptic Climatology of the Moscow Basin; and he is at present Pacific Areas Climatologist for the U. S. Weather Bureau.

Such biographical credits are tedious both to write and to read, but these few notes on a life of endless scientific exploration may underscore the author's credentials, without which an effort of the scope of *The Ocean of Air* could well be worthless.

The book itself is divided into three sections for a total of twenty chapters. Part One, "The Ocean of Air: Its Physical Order," is slow reading. Here, with meticulous care, Blumenstock introduces us to the characteristics of this eighth sea. The paragraphs are infinitely detailed and data stacks up in the mind faster than it can be digested. But this is essential knowledge for what is to follow, and careful reading here pays big dividends in the next sections.

Part Two, "The Ocean of Air: Observation, Prediction, Control," has a fine chapter on what we laymen consider the hopeless task of weather forecasting. There is also a chapter on weathermakers which is both amusing and indicative of the progress that must yet come before we have any reasonable chance of actually making weather.

Part Three, "Man and the Ocean of Air," was for me the part for which the rest was made. In six tightly conceived, excellently written chapters, Blumenstock sums up the influence of the ocean of air upon us humans, upon our world and our affairs.

I can guess that he was assailed at every page by the temptation to go off the deep end, ascribing to climate effects and influences far beyond its proven reach. That he did not do so is loud testimony to his intelligence and his scholarship. Indeed, at times it seems Blumenstock all but bends over backward to avoid this sort of enthusiasm so typical of specialists.

My own choice here is the last chapter, "Weather in History." Certainly no college student should ever again be allowed to major in history without a careful study of these 20-odd pages. "Though weather does not determine history," the author writes, "its historical influence is often profound. Though the influence of weather varies from culture to culture and from time to time within one culture, weather has been historically important at all stages of man's history. Though man may, through his technologic advance, free himself of particular weather influences, in doing so he becomes just as entangled with the weather in other ways."

In all the fields of resource management there is no specialist, anywhere, who could not do his own work more efficiently, and more intelligently, when he has once absorbed what there is for us all in *The Ocean of Air*.

NEW AND TO NOTE

If one needed proof that there is
(Turn to page 49)

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